



										10											20											30											40											50											60											
ATG	TCC	TAT	GAC	CCC	TTC	AGA	GAT	GTA	CGG	GGA	CCC	CCT	ATG	CAC	CGA	ACC	CAA	TAC	GTT	CAT																																																								
TAC	AGG	ATA	CGG	GGG	AAG	TCT	CTA	CAT	GCC	CCT	GGG	GGA	TAC	GTG	GCT	TGG	GTT	ATG	CAA	GTA																																																								
M	S	Y	A	P	F	R	D	V	R	G	P	P	M	H	R	T	Q	Y	V	H																																																								
										70											80											90											100											110											120											
TCC	CCG	TAT	GAC	CGT	CCC	GGT	TGG	AAC	CCC	CGG	TTC	TGC	ATC	ATC	TCT	GGG	AAC	CAG	CTG	CTC																																																								
AGG	GGC	ATA	CTG	GCA	GGG	CCA	ACC	TTG	GGG	GCC	AAG	ACG	TAG	TAG	AGA	CCC	TTG	GTC	GAC	GAG																																																								
S	P	Y	D	R	P	G	W	N	P	R	F	C	I	I	S	G	N	Q	L	L																																																								
										130											140											150											160											170											180											
ATG	CTG	GAT	GAG	GAT	GAG	ATA	CAC	CCC	CTT	CTG	ATC	CGC	GAC	CGG	AGG	AGC	GAG	TCC	AGC	CGA																																																								
TAC	GAC	CTA	CTC	GAT	CTC	TAT	CAG	GGG	GAA	GAC	TAG	GCG	CTG	GCC	TCC	TCG	CTC	AGG	TCG	GCT																																																								
M	L	D	E	D	E	I	H	P	L	L	I	R	D	R	R	S	E	S	S	R																																																								
										190											200											210											220											230											240											250
AAC	AAA	CTG	CTG	AGA	CGC	ACC	GTC	TCT	GTG	CCA	GTG	GAG	GGG	CGG	CCC	CAC	GGC	GAG	CAT	GAA																																																								
TTG	TTT	GAC	GAC	TCT	GCG	TGG	CAG	AGA	CAC	GGT	CAC	CTC	CCC	GCC	GGG	GTG	CCG	CTC	GTA	CTT																																																								
N	K	L	L	R	R	T	V	S	V	P	V	E	G	R	P	H	G	E	H	E																																																								
										260											270											280											290											300											310											
TAC	CAC	TTG	GGT	CGC	TCG	AGG	AGG	AAG	AGT	GTC	CCC	GGG	GGG	AAA	CAG	TAC	AGC	ATG	GAA	GCC																																																								
ATG	GTG	AAC	CCA	GCG	AGC	TCC	TCC	TTC	TCA	CAG	GGG	CCC	CCC	TTT	GTG	ATG	TCG	TAC	CTT	CGG																																																								
Y	H	L	G	R	S	R	R	K	S	V	P	G	G	K	Q	Y	S	M	E	A																																																								
										320											330											340											350											360											370											
GCC	CCC	GCT	GCG	CCC	TTC	CGG	CCC	TCG	CAA	GGC	TTC	CTG	AGC	CGG	AGG	CTA	AAA	AGC	TCC	ATC																																																								
CGG	GGG	CGA	CGC	GGG	AAG	GCC	GGG	AGC	GTT	CCG	AAG	GAC	TCG	GCC	TCC	GAT	TTT	TCG	AGG	TAG																																																								
A	P	A	A	P	F	R	P	S	Q	G	F	L	S	R	R	L	K	S	S	I																																																								
										380											390											400											410											420											430											440
AAA	CGT	ACA	AAG	TCA	CAA	CCC	AAA	CTT	GAC	CGG	ACC	AGC	AGC	TTT	CGA	CAG	ATC	CTG	CCT	CGC																																																								
TTT	GCA	TGT	TTC	AGT	GTT	GGG	TTT	GAA	CTG	GCC	TGG	TCG	TCG	AAA	GCT	GTC	TAG	GAC	GGA	GCG																																																								
K	R	T	K	S	Q	P	K	L	D	R	T	S	S	F	R	Q	I	L	P	R																																																								
										450											460											470											480											490											500											
TTC	CGA	AGT	GCT	GAC	CAT	GAC	CGG	GCC	CGG	CTG	ATG	CAG	AGC	TTC	AAG	GAG	TCT	CAC	TCC	CAT																																																								
AAG	GCT	TCA	CGA	CTG	GTA	CTG	GCC	CGG	GCC	GAC	TAC	GTC	TCG	AAG	TTC	CTC	AGA	GTG	AGG	GTA																																																								
F	R	S	A	D	H	D	R	A	R	L	M	Q	S	F	K	E	S	H	S	H																																																								
										510											520											530											540											550											560											
GAG	TCC	CTG	CTG	AGT	CCC	AGC	AGT	GCT	GCT	GAG	GCC	CTG	GAG	CTC	AAC	CTG	GAT	GAA	GAC	TCC																																																								
CTC	AGG	GAC	GAC	TCA	GGG	TCG	TCA	CGA	CGA	CTC	CGG	GAC	CTC	GAG	TTG	GAC	CTA	CTT	CTG	AGG																																																								
E	S	L	L	S	P	S	S	A	A	E	A	L	E	L	N	L	D	E	D	S																																																								
										570											580											590											600											610											620											630
ATT	ATC	AAG	CCA	GTA	CAC	AGC	TCC	ATC	CTG	GGC	CAG	GAG	TTC	TGC	TTT	GAG	GTA	ACA	ACA	TCG																																																								
TAA	TAG	TTC	GGT	CAT	GTG	TCG	AGG	TAG	GAC	CCG	GTC	CTC	AAG	ACG	AAA	GAG	CAT	TGT	TGT	AGC																																																								
I	I	K	P	V	H	S	S	I	L	G	Q	E	F	C	F	E	V	T	T	S																																																								
										640											650											660											670											680											690											
TCT	GGG	ACA	AAA	TGT	TTT	GCC	TGT	CGG	TCT	GCA	GCC	GAA	AGG	GAC	AAA	TGG	ATT	GAG	AAT	CTA																																																								
AGA	CCC	TGT	TTT	ACA	AAA	CGG	ACA	GCC	AGA	CGT	CGG	CTT	TCC	CTG	TTT	ACC	TAA	CTC	TTA	GAT																																																								
S	G	T	K	C	F	A	C	R	S	A	A	E	R	D	K	W	I	E	N	L																																																								

FIGURE 1A

700	710	720	730	740	750
CAG AGG GCT GTG AAA CCC AAC AAG GAC AAC AGC CGC CGG GTA GAT AAC GTG CTG AAA CTA TGG					
GTC TCC CGA CAC TTT GGG TTG TTC CTG TTG TCG GCG GCC CAT CTA TTG CAC GAC TTT GAT ACC					
Q R A V K P N K D N S R R V D N V L K L W					
780	790	800	810	820	830
ATC ATA GAA GCT CGA GAG CTG CCC CCC AAG AAG CGA TAT TAC TGC GAG TTA TGC CTG GAC GAC					
TAG TAT CTT CGA GCT CTC GAC GGG GGG TTC TTC GCT ATA ATG ACG CTC AAT ACG GAC CTG CTG					
I I E A R E L P P K K R Y Y C E L C L D D					
820	830	840	850	860	870
ATG CTC TAT GCA CGG ACC ACT TCC AAG CCC CGC TCA GCC TCA GGA GAC ACT GTC TTT TGG GGC					
TAC GAG ATA CGT GCC TGG TGA AGG TTC GGG GCG AGT CGG AGT CCT CTG TGA CAG AAA ACC CCG					
M L Y A R T T S K P R S A S G D T V F W G					
890	900	910	920	930	940
GAG CAC TTC GAG TTT AAC AAC CTG CCT GCT GTC CGG GCG CTG CGG CTG CAT CTG TAC CGT GAC					
CTC GTG AAG CTC AAA TTG TTG GAC GGA CGA CAG GCC CGC GAC GCC GAC GTA GAC ATG GCA CTG					
E H F E F N N L P A V R A L R L H L Y R D					
950	960	970	980	990	1000
TCG GAC AAA AAG CGG AAG AAG GAC AAG GCA GGC TAC GTT GGC CTG GTG ACT GTT CCA GTG GCC					
AGC CTG TTT TTC GCC TTC TTC CTG TTC CGT CCG ATG CAA CCG GAC CAC TGA CAA GGT CAC CCG					
S D K K R K K D K A Y V G L V T V P V A					
1010	1020	1030	1040	1050	1060
ACC CTG GCT GGG CGC CAC TTC ACA GAG CAG TGG TAC CCC GTG ACC CTG CCA ACA GGA AGT GGG					
TGG GAC CGA CCC GCG GTG AAG TGT CTC GTC ACC ATG GGG CAC TGG GAC GGT TGT CCT TCA CCC					
T L A G R H F T E Q W Y P V T L P T G S G					
1080	1090	1100	1110	1120	1130
GGC TCT GGG GGT ATG GGC TCG GGG GGA GGA GGG GGG TCA GGG GGC GGC TCA GGG GGC AAA GGG					
CCG AGA CCC CCA TAC CCG AGC CCC CCT CCT CCC CCC AGT CCC CCG CCG AGT CCC CCG TTT CCC					
G S G G M G S G G G G G S G G S G G S G G K G					
1140	1150	1160	1170	1180	1190
AAA GGA GGC TGT CCT GCT GTG CGG CTG AAG GCC CGT TAC CAG ACA ATG AGT ATC CTG CCC ATG					
TTT CCT CCG ACA GGA CGA CAC GCC GAC TTC CGG GCA ATG GTC TGT TAC TCA TAG GAC GGG TAC					
K G G C P A V R L K A R Y Q T M S I L P M					
1200	1210	1220	1230	1240	1250
GAG CTA TAT AAG GAG TTT GCA GAA TAT GTG ACC AAC CAC TAC CGC ATG CTG TGT GCC GTG CTG					
CTC GAT ATA TTC CTC AAA CGT CTT ATA CAC TGG TTG GTG ATG GCG TAC GAC ACA CGG CAC GAC					
E L Y K E F A E Y V T N H Y R M L C A V L					
1270	1280	1290	1300	1310	1320
GAG CCC GCC CTC AAT GTC AAG GGC AAG GAG GTC GCT AGT GCA CTG GTT CAC ATC CTG CAA					
CTC GGG CCG GAG TTA CAG TTC CCG TTC GAG CTC GTC CAG CGA TCA CGT GAC CAA V H I L Q					
E P A L N V K G K E E V A S A L V					
1330	1340	1350	1360	1370	1380
AGC ACA GGC AAG GCC AAG GAC TTC CTT TCA GAC ATG GCC ATG TCA GAG GTA GAC CGG TTC ATG					
TCG TGT CCG TTC CGG TTC CTG AAG GAA AGT CTG TAC CGG TAC AGT CTC CAT CTG GCC AAG TAC					
S T G K A K D F L S D M A M S E V D R F M					

FIGURE 1B



1390	1400	1410	1420	1430	1440
* GAG CGG GAA CAC CTC ATA TTC CGC GAG AAC ACG CTC GCC ACT AAA GCC ATA GAA GAG TAT ATG CTC GCC CTT GTG GAG TAT AAG GCG CTC TTG TGC GAG CGG TGA TTT CGG TAT CTT CTC ATA TAC E R E H L I F R E N T L A T K A I E E Y M	* 1450	* 1460	* 1470	* 1480	* 1490
* AGA CTG ATT GGC CAG AAA TAC CTC AAG GAT GCC ATT GGG GAG TTC ATC CGG GCT CTG TAT GAA TCT GAC TAA CCG GTC TTT ATG GAG TTC CTA CGG TAA CCC CTC AAG TAG GCC CGA GAC ATA CTT R L I G Q K Y L K D A I G E F I R A L Y E	* 1520	* 1530	* 1540	* 1550	* 1560
* TCT GAG GAG AAC TGT GAA GTA GAC CCC ATC AAG TGC ACA GCG TCC AGT CTG GCA GAG CAC CAG AGA CTC GAC TTG ACA CTT CAT GCG GGG TAG TTC ACG TGT CGC AGG TCA GAC CGT CTC GTG GTC S E E N C E V D P I K C T A S S L A E H Q	* 1580	* 1590	* 1600	* 1610	* 1620
* GCC AAC CTG CGG ATG TGC TGT GAG TTG GCC CTG TGC AAG GTG GTC AAC TCC CAT TGC GTG TTC CGG TTG GAC GCC TAC ACG ACA CTC AAC CGG GAC ACG TTC CAC CAG TTG AGG GTA ACG CAC AAG A N L R M C C E L A L C K V V N S H C V F	* 1640	* 1650	* 1660	* 1670	* 1680
* CCG AGG GAG CTG AAG GAG GTG TTT GCA TCA TGG CGG CTG CGC TGT GCA GAG CGG GGC CGG GAG GGC TCC CTC GAC TTC CTC CAC AAA CGT AGT ACC GCC GAC GCG ACA CGT CTC GCC CCG GCC CTC P R E L K E V F A S W R L R C A E R G R E	* 1710	* 1720	* 1730	* 1740	* 1750
* GAC ATT GCT GAC AGG CTG ATC AGC GCC TCG CTC TTC CTG CGC TTC CTC TGC CCG GCC ATC ATG CTG TAA CGA CTG TCC GAC TAG TCG CGG TCG GAG AAG GAC GCG AAG GAG ACG GGC CGG TAG TAC D I A D R L I S A S L F L R F L C P A I M	* 1770	* 1780	* 1790	* 1800	* 1810
* TCG CCC AGT CTG TTT GGA CTG ATG CAG GAG TAC CCA GAT GAG CAG ACC TCA CGA ACC CTC ACC AGC GGG TCA GAC AAA CCT GAC TAC GTC CTC ATG GGT CTA CTC GTC TGG AGT GCT TGG GAG TGG S P S L F G L M Q E Y P D E Q T S R T L T	* 1830	* 1840	* 1850	* 1860	* 1870
* CTC ATC GCC AAG GTT ATC CAG AAG CTG GCC AAC TTT TCC AAG TTT ACC TCA AAG GAG GAC TTC GAG TAG CGG TTC CAA TAG GTC TTG GAC CGG TTG AAA AGG TTC AAA TGG AGT TTC CTC CTG AAG L I A K V I Q N L A N F S K F T S K E D F	* 1900	* 1910	* 1920	* 1930	* 1940
* CTG GGC TTC ATG AAC GAG TTT CTG GAG CTG GAG TGG GGT TCT ATG CAG CAA TTC TTG TAT GAG GAC CCG AAG TAC TTG CTC AAA GAC CTC GAC CTC ACC CCA AGA TAC GTC GTT AAG AAC ATA CTC L G F M N E F L E L E W G S M Q Q F L Y E	* 1960	* 1970	* 1980	* 1990	* 2000
* ATA TCC AAC CTG GAC ACA CTG ACC AAC AGC AGC AGT TTT GAG GGC TAC ATA GAC TTG GGC CGC TAT AGG TTG GAC CTG TGT GAC TGG TTG TCG TCG TCA AAA CTC CCG ATG TAT CTG AAC CCG GCG I S N L D T L T N S S S F E G Y I D L G R	* 2020	* 2030	* 2040	* 2050	* 2060
* GAG CTC TCC ACA CTT CAC GCC CTG CTC TGG GAG GTG CTG CCC CAG CTC AGC AAG GAA GCC CTC CTC CCG AAG GAA CGA CTC GAC CCC GTC GTG GAG GGT CTC GTC CCG CAC TTC ACA CCT CTC GAG E L S T L H A L L W E V L P Q L S K E A L					

FIGURE 1C



2080	2090	2100	2110	2120	2130	2140
* CTG AAG CTG GGC CCG CTG CCC CGG CTC CTC AGC GAC ATC AGC ACA GCC CTG AGG AAC CCT AAC GAC TTC GAC CCG GGC GAC GGG GCC GAG GAG TCG CTG TAG TCG TGT CGG GAC TCC TTG GGA TTG L K L G P L P R L L S D I S T A L R N P N						
2150	2160	2170	2180	2190	2200	
* ATC CAA AGG CAG CCG AGC CGC CAG AGC GAG CGC GCT CGG TCT CAG CCC ATG GTG CTG CGC GGG TAG GTT TCC GTC GGC TCG GCG GTC TCG CTC GCG CGA GCC AGA GTC GGG TAC CAC GAC GCG CCC I Q R Q P S R Q S E R A R S Q P M V L R G						
2210	2220	2230	2240	2250	2260	
* CCG TCA GCC GAG ATG CAG GGC TAC ATG ATG CGG GAC CTC AAC AGC TCC ATC GAC CTT CAG TCC GGC AGT CGG CTC TAC GTC CCG ATG TAC TAC GCC CTG GAG TTG TCG AGG TAG CTG GAA GTC AGG P S A E M Q G Y M M R D L N S S I D L Q S						
2270	2280	2290	2300	2310	2320	2330
* TTC ATG GCT CGA GGC CTC AAC AGC TCT ATG GAC ATG GCT CGC CTC CCC TCC CCA ACC AAG GAG AAG TAC CGA GCT CCG GAG TCG AGA TAC CTG TAC CGA GCG GAG GGG AGG GGT TGG TTC CTC F M A R G L N S S M D M A R L P S P T K E						
2340	2350	2360	2370	2380	2390	
* AAA CCC CCG CCG CCC CCT CCC GGT GGG GGT AAA GAC CTG TTC TAT GTG AGC CGG CCA CCA CTG TTT GGG GGC GGC GGG GGA GGG CCA CCC CCA TTT CTG GAC AAG ATA CAC TCG GCC GGT GGT GAC K P P P P P P G G G K D L F Y V S R P P L						
2400	2410	2420	2430	2440	2450	
* GCC CGG TCC TCC CCA GCA TAC TGC ACG AGC AGC TCG GAC ATC ACA GAG CCG GAG CAG AAG ATG CGG GCC AGG AGG GGT CGT ATG ACG TGC TCG TCG AGC CTG TAG TGT CTC GGC CTC GTC TTC TAC A R S S P A Y C T S S S D I T E P E Q K M						
2460	2470	2480	2490	2500	2510	2520
* CTG AGT GTC AAC AAG AGT GTG TCC ATG CTG GAC CTG CAG GGC GAC GGG CCT GGG GGC CGC CTT GAC TCA CAG TTG TTC TCA CAC AGG TAC GAC CTG GAC GTC CCG CTG CCC GGA CCC CCG GCG GAA L S V N K S V S M L D L Q G D G P G G R L						
2530	2540	2550	12560	2570	2580	
* AAC AGC AGT AGT GTT TCC AAC CTG GCA GCT GTT GGG GAC CTG TTG CAC TCA AGC CAG GCT TCA TTG TCG TCA TCA CAA AGG TTG GAC CGT CGA CAA CCC CTG GAC AAC GTG H S S Q A S						
2590	2600	2610	2620	2630	2640	
* CTG ACA GCA GCC TTG GGG TTG CGG CCT GCA CCT GCC GGG CGC CTC TCC CAA GGG AGT GGC TCT GAC TGT CGT CGG AAC CCC AAC GCC GGA CGT GGA CGG CCC GCG GAG AGG GTT CCC TCA CCG AGA L T A A L G L R P A P A G R L S Q G S G S						
2650	2660	2670	2680	2690	2700	
* TCC ATC ACA GCA GCC GGC ATG CGC CTC AGC CAG ATG GGT GTC ACT ACG GAT GGT GTC CCC GCC AGG TAG TGT CGT CGG CCG TAC GCG GAG TCG GTC TAC CCA CAG TGA TGC CTA CCA CAG GGG CGG S I T A A G M R L S Q M G V T T D G V P A						
2710	2720	2730	2740	2750	2760	2770
* CAG CAA CTG CGC ATC CCT TCC TTC CAG AAC CCT CTC TTC CAT ATG GCT GCC GAT GGA CCA GTC GTT GAC GCG TAG GGA GAA AGG AAG GTC TTG GGA GAG AAG GTA TAC CGA CGG CTA CCT GGT Q Q L R I P L S F Q N P L F H M A A D G P						

FIGURE 1D



2780	2790	2800	2810	2820	2830
GGG CCC CCA GCA GGC CAT GGA GGG AGC AGT GGC CAT GGT CCA CCT TCC TCC CAT CAC CAC CAC	CCC GGG GGT CGT CCG GTA CCT CCC TCG TCA CCG GTA CCA GGT GGA AGG AGG GTA GTG GTG GTG	G G P P A G H G G S S G H G P P S S H H H H			
2840	2850	2860	2870	2880	2890
CAC CAC CAT CAC CAT CAC CGA GGG GGA GAA CCC CCA GGG GAC ACT TTT GCC CCG TTC CAT GGC	GTG GTG GTA GTG GTA GTG GCT CCC CCT CTT GGG GGT CCC CTG TGA AAA CGG GGC AAG GTA CCG	H H H H H H R G G E P P G D T F A P F H G			
2900	2910	2920	2930	2940	2950
TAT AGC AAG AGC GAG GAC CTC TCT ACA GGG GTC CCT AAG CCC CCT GCG GCC TCC ATC CTT CAC	ATA TCG TTC TCG CTC CTG GAG AGA TGT CCC CAG GGA TTC CCG GGA CGC CGG AGG TAG TAG GAA GTG	Y S K S E D L S T G V P K P P A A S I L H			
2970	2980	2990	3000	3010	3020
AGC CAC AGC TAC AGT GAT GAG TTT GGA CCC TCT GGT ACT GAT TTT ACC CGT CGG CAG CTC TCA	TCG GTG TCG ATG TCA CTA CTC AAA CCT GGG AGA CCA TGA CTA AAA TGG GCA GCC GTC GAG AGT	S H S Y S D E F G P S G T D F T R R Q L S			
3030	3040	3050	3060	3070	3080
CTT CAG GAC AAC CTA CAG CAC ATG CTC TCC CCG CCC CAG ATC ACC ATC GGT CCC CAG AGG CCA	GAA GTC CTG TTG GAT GTC GTG TAC TAC GAG AGG GGC GGG GTC TAG TGG TAG CCA GGG GTC TCC P	L Q D N L Q H M L S P Q I T I G P Q R P			
3090	3100	3110	3120	3130	3140
GCT CCC TCA GGG CCA GGA GGG GGC AGT GGT GGG GGC AGT GGT GGG GGC GGT GGG GGC CAG CCA	CGA GGG AGT CCC GGT CCT CCC CCG TCA CCA CCC CCG TCA CCA CCC CCG CCA CCC CCG GTC GGT	A P S G P G G G S G G G G S G G G G G G G G G Q P			
3160	3170	3180	3190	3200	3210
CCT CCC TTG CAG AGG GGC AAA TCT CAG CAG TTG ACA GTG AGT GCT GCC CAG AAA CCC CGG CCG	GGA GGG AAC GTC TCC CCG TTT AGA GTC GTC AAC TGT CAC TCA CGA CGG GTC TTT GGG GCC GGC	P P L Q R G K S Q Q L T V S A A Q K P R P			
3220	3230	3240	3250	3260	3270
TCC AGC GGG AAC CTA TTG CAG TCC CCG GAA CCA AGT TAT GGT CCT GCC CGT CCA CGG CAA CAG	AGG TCG CCC TTG GAT AAC GTC AGG GGC CTT GGT TCA ATA CCA GGA CGG GCA GGT GCC GTT GTC	S S G N L L Q S P E P S Y G P A R P R Q Q			
3280	3290	3300	3310	3320	3330
AGC CTC AGC AAA GAG GGC AGC ATT GGG GGC AGC GGG GGC AGC GGT GGC GGA GGG GGT GGG GGG	TCG GAG TCG TTT CTC CCG TCG TAA CCC CCG TCG CCC CCG TCG CCA CCG CCT CCC CCA CCC CCC	S L S K E G S I G G S G G S G G S G G G G G G G G G			
3340	3350	3360	3370	3380	3390
CTC AAG CCC TCC ATC ACC AAG CAG CAT TCC CAG ACT CCA TCC ACG CTG AAC CCC ACG ATG CCG	GAG TTC GGG AGG TAG TGG TTC GTC GTA AGG GTC TGA GGT AGG TGC GAC TTG GGG TGC TAC GGC	L K P S I T K Q H S Q T P S T L N P T M P			
3410	3420	3430	3440	3450	3460
GCC TCG GAG CGG ACT GTA GCC TGG GTG TCC AAT ATG CCT CAC CTG TCC GCT GAC ATC GAG AGT	CGG AGC CTC GCC TGA CAT CGG ACC CAC AGG TTA TAC GGA GTG GAC AGG CGA CTG TAG CTC TCA	A S E R T V A W V S N M P H L S A D I E S			

FIGURE 1E



3470 \* 3480 \* 3490 \* 3500 \* 3510 \* 3520 \*  
 GCA CAC ATT GAG CGG GAA GAG TAC AAG CTG AAG GAG TAC TCG AAG TCC ATG GAC GAG AGC CGA  
 CGT GTG TAA CTC GCC CTT CTC ATG TTC GAC TTC CTC ATG AGC TTC AGG TAC CTG CTC TCG GCT  
 A H I E R E E Y K L K E Y S K S M D E S R  
 3530 \* 3540 \* 3550 \* 3560 \* 3570 \* 3580 \* 3590 \*  
 CTG GAC AGG GTG AAG GAG TAC GAG GAG GAG ATC CAC TCA CTG AAG GAA AGG CTA CAC ATG TCC  
 GGA CAT GTG TAG CCT TTC CTT CAG TGA GTG GAT CTC CTC CTC GTA CTC CTT CAC CCT GTC CAG  
 L D R V K E Y E E E I H S L K E R L H M S  
 3600 \* 3610 \* 3620 \* 3630 \* 3640 \* 3650 \*  
 AAC CGG AAG CTG GAA GAG TAC GAG CGG AGG CTG CTG TCC CAG GAA GAG CAG ACC AGC AAG ATC  
 TTG GCC TTC GAC CTT CTC ATG CTC GCC TCC GAC GAC TCC AGG GTC CTT CTC CAG TGG TCG TTC TAG  
 N R K L E E Y E R R L L S Q E E Q T S K I  
 3660 \* 3670 \* 3680 \* 3690 \* 3700 \* 3710 \*  
 CTG ATG CAG TAC CAA GCC CGC CTG GAG CAG AGC GAG AAG CGC TTG AGG CAG CAG CAG GTG GAG  
 GAC TAC GTC ATG GTT CGG GCG GAC CTC GTC TCG CTC TTC GCG AAC TCC GTC GTC GTC CAC CTC  
 L M Q Y Q A R L E Q S E K R L R Q Q Q V E  
 3720 \* 3730 \* 3740 \* 3750 \* 3760 \* 3770 \* 3780 \*  
 AAG GAC TCC CAG ATC AAG AGC ATC ATT GGC AGG CTG ATG CTG GTG GAG GAG GAG CTG CGC CGG  
 TTC CTG AGG GTC TAG TTC TCG TAG TAA CCG TCC GAC TAC GAC CAC CTC CTC GAC GCG GCC  
 K D S Q I K S I I G R L M L V E E E L R G C R  
 3790 \* 3800 \* 3810 \* 3820 \* 3830 \* 3840 \*  
 GAC CAC CCC GCC ATG GCT GAG CCG CTG CCT GAA CCC AAG AAG AGG CTG CTC GAC GCT CAG AGA  
 CTG GTG GGG CGG TAC CGA CTC GGC GAC GGA CTT GGG TTC TTC TCC GAC GAG CTG CGA GTC TCT  
 D H P A M A E P L P E P K K R L L D A Q R  
 3850 \* 3860 \* 3870 \* 3880 \* 3890 \* 3900 \*  
 GGC AGC TTC CCC CCT TGG GTC CAA CAA ACC CGC GTG TGA CGC TGG CCC CAC CTT GGA ACG GCC  
 CCG TCG AAG GGG GGA ACC CAG GTT GTT TGG GCG CAC ACT GCG ACC GGG GTG GAA CCT TGC CGG  
 G S F P P W V Q Q T R V \* R W P H L G T A  
 3910 \* 3920 \* 3930 \* 3940 \* 3950 \* 3960 \*  
 TGG CCC CCC CAG CCC CAC CCC CCC CAC CCC GGC TGC AGA TCA CAG AGA ACG GCG AGT TCC GGA  
 ACC GGG GGG GTC GGG GTG GGG GGG GTG GGG CCG ACG TCT AGT GTC TCT TGC CGC TCA AGG CCT  
 W P P Q P H P P H P G C R S Q R T A S S G  
 3970 \* 3980 \* 3990 \* 4000 \* 4010 \* 4020 \* 4030 \*  
 ACA CCG CAG ACC ACT AGC CCA CCC AGC ATC ACA GAC CTC CTT CCC TGT GCA CCC TAC CCC GGC  
 TGT GGC GTC TGG TGA TCG GGT GGG TCG TAG TGT CTG GAG GAA GGG GGG ACA CGT GGG ATG GGG CCG  
 T P Q T T S P P S I T D L L P C A P Y P G  
 4040 \* 4050 \* 4060 \* 4070 \* 4080 \* 4090 \*  
 CCA CCC AGC GTC ACA GAC CTC CTT CCC AGT GCA CCC GAC CCT GGA ACA TCA CCA ACC ACC AGG  
 GGT GGG TCG CAG TGT CTG GAG GAA GGG TCA CGT GGG CTG GGA CCT TGT AGT GGT TGG TGG TCC  
 P P S V T D L L P S A P D P G T S P T T R  
 4100 \* 4110 \* 4120 \* 4130 \* 4140 \* 4150 \*  
 ACT GGA CGT CAC CAA GGG ACA GCG GGA TTG TCT CCC TTA ACG CCT CCT TGG GGC ACC CAT CTG  
 TGA CCT GCA GTG GTT CCC TGT CGC CCT AAC AGA GGG AAT TGC GGA GGA ACC CCG TGG GTA GAC  
 T G R H Q G T A G L S P L T P P W G T H L

FIGURE 1F



4160		4170		4180		4190		4200		4210		4220								
*		*		*		*		*		*		*								
TCA	ACC	CCA	CTG	CTC	CAT	TCC	AGG	AGG	GAG	AGT	GGG	ACC	CTC	AGC	TGC	CCT	CTC	ACC	CCA	GGA
AGT	TGG	GGT	GAC	GAG	GTA	AGG	TCC	TCC	CTC	TCA	CCC	TGG	GAG	TCG	ACG	GGA	GAG	TGG	GGT	CCT
S	T	P	L	L	H	S	R	R	E	S	G	T	L	S	C	P	L	T	P	G
		4230				4240				4250						4260				4270
		*				*				*						*				*
CAC	CAC	CTA	CCC	CAC	ACA	GAC	CCC	TTC	ACT	CTG	GGG	TGC	TAT	CCC	CAT	CCT				
GTG	GTG	GAT	GGG	GTG	TGT	CTG	GGG	AAG	TGA	GAC	CCC	ACG	ATA	GGG	GTA	GGA				
H	H	L	P	H	T	D	P	F	T	L	G	C	Y	P	H	P				

FIGURE 1G



										10					20					30					40					50					60									
										*					*					*					*					*					*									
TAA	GGC	CCC	CCA	CCC	CGA	CCC	CGT	CAG	GGG	GCT	CCG	GTT	CAG	GTT	CCT	TGC	CCC	CTC	CTT	CCC																								
ATT	CCG	GGG	GGT	GGG	GCT	GGG	GCA	GTC	CCC	CGA	GGC	CAA	GTC	CAA	GGA	ACG	GGG	GAG	GAA	GGG																								
*	G	P	P	P	R	P	R	Q	G	A	P	V	Q	V	P	C	P	L	L	P																								
										70					80					90					100					110					120									
										*					*					*					*					*														
ACC	GCC	AGC	CTC	TCC	GCC	GCC	GCT	GCT	CTT	CCT	GCT	GCT	TTC	CGG	GGG	AAT	ACC	ACT	TGG	GTC																								
TGG	CGG	TCG	GAG	AGG	CGG	CGG	CGA	CGA	GAA	GGA	CGA	CGA	AAG	GCC	CCC	TTA	TGG	TGA	ACC	CAG																								
T	A	S	L	S	A	A	A	A	L	P	A	A	F	R	G	N	T	T	W	V																								
										130					140					150					160					170					180									
										*					*					*					*					*														
GCT	CGA	GGA	GGA	AGA	GTG	TCC	CCG	GGG	GGG	AAA	CAG	TAC	AGC	ATG	GAA	GCC	GCC	CCC	GCT	GCG																								
CGA	GCT	CCT	CCT	TCT	CAC	AGG	GGC	CCC	CCC	TTT	GTC	ATG	TCG	TAC	CTT	CGG	CGG	GGG	CGA	CGC																								
A	R	G	G	R	V	S	P	G	G	K	Q	Y	S	M	E	A	A	P	A	A																								
										190					200					210					220					230					240					250				
										*					*					*					*					*														
CCC	TTC	CGG	CCC	TCG	CAA	GGC	TTC	CTG	AGC	CGG	AGG	CTA	AAA	AGC	TCC	ATC	AAA	CGT	ACA	AAG																								
GGG	AAG	GCC	GGG	AGC	GTT	CCG	AAG	GAC	TCG	GCC	TCC	GAT	TTT	TCG	AGG	TAG	TTT	GCA	TGT	TTC																								
P	F	R	P	S	Q	G	F	L	S	R	R	L	K	S	S	I	K	R	T	K																								
										260					270					280					290					300					310									
										*					*					*					*					*														
TCA	CAA	CCC	AAA	CTT	GAC	CGG	ACC	AGC	AGC	TTT	CGA	CAG	ATC	CTG	CCT	CGC	TTC	CGA	AGT	GCT																								
AGT	GTT	GGG	TTT	GAA	CTG	GCC	TGG	TCG	TCG	AAA	GCT	GTC	TAG	GAC	GGA	GCG	AAG	GCT	TCA	CGA																								
S	Q	P	K	L	D	R	T	S	S	F	R	Q	I	L	P	R	F	R	S	A																								
										320					330					340					350					360					370									
										*					*					*					*					*														
GAC	CAT	GAC	CGG	GCC	CGG	CTG	ATG	CAG	AGC	TTC	AAG	GAG	TCT	CAC	TCC	CAT	GAG	TCC	CTG	CTG																								
CTG	GTA	CTG	GCC	CGG	GCC	GAC	TAC	GTC	TCG	AAG	TTC	CTC	AGA	GTG	AGG	GTA	CTC	AGG	GAC	GAC																								
D	H	D	R	A	R	L	M	Q	S	F	K	E	S	H	S	H	E	S	L	L																								
										380					390					400					410					420					430					440				
										*					*					*					*					*														
AGT	CCC	AGC	AGT	GCT	GCT	GAG	GCC	CTG	GAG	CTC	AAC	CTG	GAT	GAA	GAC	TCC	ATT	ATC	AAG	CCA																								
TCA	GGG	TCG	TCA	CGA	CGA	CTC	CGG	GAC	CTC	GAG	TTG	GAC	CTA	CTT	CTG	AGG	TAA	TAG	TTC	GGT																								
S	P	S	S	A	A	E	A	L	E	L	N	L	D	E	D	S	I	I	K	P																								
										450					460					470					480					490					500									
										*					*					*					*					*														
GTA	CAC	AGC	TCC	ATC	CTG	GGC	CAG	GAG	TTC	TGC	TTT	GAG	GTA	ACA	ACA	TCG	TCT	GGG	ACA	AAA																								
CAT	GTG	TCG	AGG	TAG	GAC	CCG	GTC	CTC	AAG	ACG	AAA	CTC	CAT	TGT	TGT	AGC	AGA	CCC	TGT	TTT																								
V	H	S	S	I	L	G	Q	E	F	C	F	E	V	T	T	S	S	G	T	K																								
										510					520					530					540					550					560									
										*					*					*					*					*														
TGT	TTT	GCC	TGT	CGG	TCT	GCA	GCC	GAA	AGG	GAC	AAA	TGG	ATT	GAG	AAT	CTA	CAG	AGG	GCT	GTG																								
ACA	AAA	CGG	ACA	GCC	AGA	CGT	CGG	CTT	TCC	CTG	TTT	ACC	TAA	CTC	TTA	GAT	GTC	TCC	CGA	CAC																								
C	F	A	C	R	S	A	A	E	R	D	K	W	I	E	N	L	Q	R	A	V																								
										570					580					590					600					610					620					630				
										*					*					*					*					*														
AAA	CCC	AAC	AAG	GAC	AAC	AGC	CGC	CGG	GTA	GAT	AAC	GTG	CTG	AAA	CTA	TGG	ATC	ATA	GAA	GCT																								
TTT	GGG	TTG	TTC	CTG	TTG	TCG	GCG	GCC	CAT	CTA	TTG	CAC	GAC	TTT	GAT	ACC	TAG	TAT	CTT	CGA																								
K	P	N	K	D	N	S	R	R	V	D	N	V	L	K	L	W	I	I	E	A																								

FIGURE 2A





640										650										660										670										680										690																			
CGA	GAG	CTG	CCC	CCC	AAG	AAG	CGA	TAT	TAC	TGC	GAG	TTA	TGC	CTG	GAC	GAC	ATG	CTC	TAT	GCA																																																	
GCT	CTC	GAC	GGG	GGG	TTC	TTC	GCT	ATA	ATG	ACG	CTC	AAT	ACG	GAC	CTG	CTG	TAC	GAG	ATA	CGT																																																	
R	E	L	P	P	K	K	R	Y	Y	C	E	L	C	L	D	D	M	L	Y	A																																																	
700										710										720										730										740										750																			
CGG	ACC	ACT	TCC	AAG	CCC	CGC	TCA	GCC	TCA	GGA	GAC	ACT	GTC	TTT	TGG	GGC	GAG	CAC	TTC	GAG																																																	
GCC	TGG	TGA	AGG	TTC	GGG	GCG	AGT	CGG	AGT	CCT	CTG	TGA	CAG	AAA	ACC	CCG	CTC	GTG	AAG	CTC																																																	
R	T	T	S	K	P	R	S	A	S	G	D	T	V	F	W	G	E	H	F	E																																																	
780										790										800										810										820										830																			
TTT	AAC	AAC	CTG	CCT	GCT	GTC	CGG	GCG	CTG	CGG	CTG	CAT	CTG	TAC	CGT	GAC	TGC	GAC	AAA	AAG																																																	
AAA	TTG	TTG	GAC	GGA	CGA	CAG	GCC	CGC	GAC	GCC	GAC	GTA	GAC	ATG	GCA	CTG	AGC	CTG	TTT	TTC																																																	
F	N	N	L	P	A	V	R	A	L	R	L	H	L	Y	R	D	S	D	K	K																																																	
820										830										840										850										860										870										880									
CGG	AAG	AAG	GAC	AAG	GCA	GGC	TAC	GTT	GGC	CTG	GTG	ACT	GTT	CCA	GTG	GCC	ACC	CTG	GCT	GGG																																																	
GCC	TTC	TTC	CTG	TTC	CGT	CCG	ATG	CAA	CCG	GAC	CAC	TGA	CAA	GGT	CAC	CCG	TGG	GAC	GCT	CCC																																																	
R	K	K	D	K	A	G	Y	V	G	L	V	T	V	P	V	A	T	L	A	G																																																	
890										900										910										920										930										940																			
CGC	CAC	TTC	ACA	GAG	CAG	TGG	TAC	CCC	GTG	ACC	CTG	CCA	ACA	GGA	AGT	GGG	GGC	TCT	GGG	GGT																																																	
GCG	GTG	AAG	TGT	CTC	GTC	ACC	ATG	GGG	CAC	TGG	GAC	GGT	TGT	CCT	TCA	CCC	CCG	AGA	CCC	CCA																																																	
R	H	F	T	E	Q	W	Y	P	V	T	L	P	T	G	S	G	G	S	G	G																																																	
950										960										970										980										990										1000																			
ATG	GGC	TCG	GGG	GGA	GGA	GGG	GGG	TCA	GGG	GGC	GGC	TCA	GGG	GGC	AAA	GGG	AAA	GGA	GGC	TGT																																																	
TAC	CCG	AGC	CCC	CCT	CCT	CCC	CCC	AGT	CCC	CCG	CCG	AGT	CCC	CCG	TTT	CCC	TTT	CCT	CCG	ACA																																																	
M	G	S	G	G	G	G	G	S	G	G	G	S	G	G	K	G	K	G	G	C																																																	
1010										1020										1030										1040										1050										1060										1070									
CCT	GCT	GTG	CGG	CTG	AAG	GCC	CGT	TAC	CAG	ACA	ATG	AGT	ATC	CTG	CCC	ATG	GAG	CTA	TAT	AAG																																																	
GGA	CGA	CAC	GCC	GAC	TTC	CGG	GCA	ATG	GTC	TGT	TAC	TCA	TAG	GAC	GGG	TAC	CTC	GAT	ATA	TTC																																																	
P	A	V	R	L	K	A	R	Y	Q	T	M	S	I	L	P	M	E	L	Y	K																																																	
1080										1090										1100										1110										1120										1130																			
GAG	TTT	GCA	GAA	TAT	GTG	ACC	AAC	CAC	TAC	CGC	ATG	CTG	TGT	GCC	GTG	CTG	GAG	CCC	GCC	CTC																																																	
CTC	AAA	CGT	CTT	ATA	CAC	TGG	TTG	GTG	ATG	GCG	TAC	GAC	ACA	CGG	CAC	GAC	CTC	GGG	CGG	GAG																																																	
E	F	A	E	Y	V	T	N	H	Y	R	M	L	C	A	V	L	E	P	A	L																																																	
1140										1150										1160										1170										1180										1190																			
AAT	GTC	AAG	GGC	AAG	GAG	GAG	GTC	GCT	AGT	GCA	CTG	GTT	CAC	ATC	CTG	CAA	AGC	ACA	GGC	AAG																																																	
TTA	CAG	TTC	CCG	TTC	CTC	CTC	CAG	CGA	TCA	CGT	GAC	CAA	GTG	TAG	GAC	GTT	TCG	TGT	CCG	TTC																																																	
N	V	K	G	K	E	E	V	A	S	A	L	V	H	I	L	Q	S	T	G	K																																																	
1200										1210										1220										1230										1240										1250										1260									
GCC	AAG	GAC	TTC	CTT	TCA	GAC	ATG	GCC	ATG	TCA	GAG	GTA	GAC	CGG	TTC	ATG	GAG	CGG	GAA	CAC																																																	
CGG	TTC	CTG	AAG	GAA	AGT	CTG	TAC	CGG	TAC	AGT	CTC	CAT	CTG	GCC	AAG	TAC	CTC	GCC	CTT	GTG																																																	
A	K	D	F	L	S	D	M	A	M	S	E	V	D	R	F	M	E	R	E	H																																																	
1270										1280										1290										1300										1310										1320																			
CTC	ATA	TTC	CGC	GAG	AAC	ACG	CTC	GCC	ACT	AAA	GCC	ATA	GAA	GAG	TAT	ATG	AGA	CTG	ATT	GGC																																																	
GAG	TAT	AAG	GCG	CTC	TTG	TGC	GAG	CGG	TGA	TTT	CGG	TAT	CTT	CTC	ATA	TAC	TCT	GAC	TAA	CCG																																																	
E	I	F	R	E	N	T	L	A	T	K	A	I	E	E	Y	M	R	L	I	G																																																	

FIGURE 2B



1330	1340	1350	1360	1370	1380
CAG AAA TAC CTC AAG GAT GCC ATT GGG GAG TTC ATC CGG GCT CTG TAT GAA TCT GAG GAG AAC					
GTC TTT ATG GAG TTC CTA CGG TAA CCC CTC AAG TAG GCC CGA GAC ATA CTT AGA CTC CTC TTG					
Q K Y L K D A I G E F I R A L Y E S E E N					
1390	1400	1410	1420	1430	1440
TGT GAA GTA GAC CCC ATC AAG TGC ACA GCG TCC AGT CTG GCA GAG CAC CAG GCC AAC CTG CGG					
ACA CTT CAT CTG GGG TAG TTC ACG TGT CGC AGG TCA GAC CGT CTC GTG GTC CGG TTG GAC GCC					
C E V D P I K C T A S S L A E H Q A N L R					
1450	1460	1470	1480	1490	1500
ATG TGC TGT GAG TTG GCC CTG TGC AAG GTG GTC AAC TCC CAT TGC GTG TTC CCG AGG GAG CTG					
TAC ACG ACA CTC AAC CGG GAC ACG TTC CAC CAG TTG AGG GTA ACG CAC AAG GGC TCC CTC GAC					
M C C E L A L C K V V N S H C V F P R E L					
1520	1530	1540	1550	1560	1570
AAG GAG GTG TTT GCA TCA TGG CGG CTG CGC TGT GCA GAG CGG GGC CGG GAG GAC ATT GCT GAC					
TTC CTC CAC AAA CGT AGT ACC GCC GAC GCG ACA CGT CTC GCC CCG GCC CTC CTG TAA CGA CTG					
K E V F A S W R L R C A E R G R E D I A D					
1580	1590	1600	1610	1620	1630
AGG CTG ATC AGC GCC TCG CTC TTC CTG CGC TTC CTC TGC CCG GCC ATC ATG TCG CCC AGT CTG					
TCC GAC TAG TCG CGG AGC GAG AAG GAC GCG AAG GAG ACG GGC CGG TAG AGC GGG TCA GAC					
R L I S A S L F L R F L C P A I M S P S L					
1640	1650	1660	1670	1680	1690
TTT GGA CTG ATG CAG GAG TAC CCA GAT GAG CAG ACC TCA CGA ACC CTC ACC CTC ATC GCC AAG					
AAA CCT GAC TAC GTC CTC ATG GGT CTA CTC GTC TGG AGT GCT TGG GAG TGG GAG TAG CGG TTC					
F G L M Q E Y P D E Q T S R T L T L I A K					
1710	1720	1730	1740	1750	1760
GTT ATC CAG AAC CTG GCC AAC TTT TCC AAG TTT ACC TCA AAG GAG GAC TTC CTG GGC TTC ATG					
CAA TAG GTC TTG GAC CGG TTG AAA AGG TTC AAA TGG AGT TTC CTC CTG AAG GAC CCG AAG TAC					
V I Q N L A N F S K F T S K E D F L G F M					
1770	1780	1790	1800	1810	1820
AAC GAG TTT CTG GAG CTG GAG TGG GGT TCT ATG CAG CAA TTC TTG TAT GAG ATA TCC AAC CTG					
TTG CTC AAA GAC CTC GAC CTC ACC CCA AGA TAC GTC GTT AAG AAC ATA CTC TAT AGG TTG GAC					
N E F L E L E W G S M Q Q F L Y E I S N L					
1830	1840	1850	1860	1870	1880
GAC ACA CTG ACC AAC AGC AGC AGT TTT GAG GGC TAC ATA GAC TTG GGC CGC GAG CTC TCC ACA					
CTG TGT GAC TGG TTG TCG TCG TCA AAA CTC CCG ATG TAT CTG AAC CCG GCG CTC GAG AGG TGT					
D T L T N S S S F E G Y I D L G R E L S T					
1900	1910	1920	1930	1940	1950
CTT CAC GCC CTG CTC TGG GAG GTG CTG CCC CAG CTC AGC AAG GAA GCC CTC CTG AAG CTG GGC					
GAA GTG CGG GAC GAG ACC CTC CAC GAC GGG GTC GAG TCG TTC CTT CGG GAG GAC TTC GAC CCG					
L H A L L W E V L P Q L S K E A L L K L G					

FIGURE 2C



1960	1970	1980	1990	2000	2010
CCG CTG CCC CGG CTC CTC AGC GAC ATC AGC ACA GCC CTG AGG AAC CCT AAC ATC CAA AGG CAG					
GGC GAC GGG GCC GAG GAG TCG CTG TAG TCG TGT CGG GAC TCC TTG GGA TTG TAG GTT TCC GTC					
P L P R L L S D I S T A L R N P N I Q R Q					
2020	2030	2040	2050	2060	2070
CCG AGC CGC CAG AGC GAG CGC GCT CGG TCT CAG CCC ATG GTG CTG CGC GGG CCG TCA GCC GAG					
GGC TCG GCG GTC TCG CTC GCG CGA GCC AGA GTC GGG TAC CAC GAC GCG CCC GGC AGT CGG CTC					
P S R Q S E R A R S Q P M V L R G P S A E					
2080	2090	2100	2110	2120	2130
ATG CAG GGC TAC ATG ATG CGG GAC CTC AAC AGC TCC ATC GAC CTT CAG TCC TTC ATG GCT CGA					
TAC GTC CCG ATG TAC TAC GCC CTG GAG TTG TCG AGG TAG CTG GAA GTC AGG AAG TAC CGA GCT					
M Q G Y M M R D L N S S I D L Q S F M A R					
2150	2160	2170	2180	2190	2200
GGC CTC AAC AGC TCT ATG GAC ATG GCT CGC CTC CCC TCC CCA ACC AAG GAG AAA CCC CCG CCG					
CCG GAG TTG TCG AGA TAC CTG TAC CGA GCG GAG GGG AGG GGT TGG TTC CTC TTT GGG GGC GGC					
G L N S S M D M A R L P S P T K E K P P P					
2210	2220	2230	2240	2250	2260
CCC CCT CCC GGT GGG GGT AAA GAC CTG TTC TAT GTG AGC CGG CCA CCA CTG GCC CGG TCC TCC					
GGG GGA GGG CCA CCC CCA TTT CTG GAC AAG ATA CAC TCG GCC GGT GGT GAC CGG GCC AGG AGG					
P P P G G G K D L F Y V S R P P P L A R S S					
2270	2280	2290	2300	2310	2320
CCA GCA TAC TGC ACG AGC AGC TCG GAC ATC ACA GAG CCG CAG AAG ATG CTG AGT GTC AAC					
GGT CGT ATG ACG TGC TCG AGC CTG TAG TGT CTC GGC CTC GTC TTC TAC GAC TCA CAG TTG					
P A Y C T S S S D I T E P E Q K M L S V N					
2340	2350	2360	2370	2380	2390
AAG AGT GTG TCC ATG CTG GAC CTG CAG GGC GAC GGG CCT GGG GGC CGC CTT AAC AGC AGT AGT					
TTC TCA CAC AGG TAC GAC CTG GAC GTC CCG CTG CCC GGA CCC CCG GCG GAA TTG TCG TCA TCA					
K S V S M L D L Q G D G P G G G R L N S S S					
2400	2410	2420	2430	2440	2450
GTT TCC AAC CTG GCA GCT GTT GGG GAC CTG TTG CAC TCA AGC CAG GCT TCA CTG ACA GCA GCC					
CAA AGG TTG GAC CGT CGA CAA CCC CTG GAC AAC GTG AGT TCG GTC CGA AGT GAC TGT CGT CGG					
V S N L A A V G D L L H S S Q A S L T A A					
2460	2470	2480	2490	2500	2510
TTG GGG TTG CGG CCT GCA CCT GCC GGG CGC CTC TCC CAA GGG AGT GGC TCT TCC ATC ACA GCA					
AAC CCC AAC GCC GGA CGT GGA CGG CCC GCG GAG AGG GTT CCC TCA CCG AGA AGG TAG TGT CGT					
L G L R P A P A G R L S Q G S G S S I T A					
2530	2540	2550	12560	2570	2580
GCC GGC ATG CGC CTC AGC CAG ATG GGT GTC ACT ACG GAT GGT GTC CCC GCC CAG CAA CTG CGC					
CGG CCG TAC GCG GAG TCG GTC TAC CCA CAG TGA TGC CTA CCA CAG GGG CGG GTC GTT GAC GCG					
A G M R L S Q M G V T T D G V P A Q Q L R					

FIGURE 2D



2590	2600	2610	2620	2630	2640
ATC CCT CTT TCC TTC CAG AAC CCT CTC TTC CAT ATG GCT GCC GAT GGA CCA GGG CCC CCA GCA					
TAG GGA GAA AGG AAG GTC TTG GGA GAG AAG GTA TAC CGA CGG CTA CCT GGT CCC GGG GGT CGT					
I P L S F Q N P L F H M A A D G P G P P A					
2650	2660	2670	2680	2690	2700
GGC CAT GGA GGG AGC AGT GGC CAT GGT CCA CCT TCC TCC CAT CAC CAC CAC CAC CAC CAT CAC					
CCG GTA CCT CCC TCG TCA CCG GTA CCA GGT GGA AGG AGG GTA GTG GTG GTG GTG GTG GTG GTG					
G H G G S S G H G P P S S H H H H H H H H					
2710	2720	2730	2740	2750	2760
CAT CAC CGA GGG GGA GAA CCC CCA GGG GAC ACT TTT GCC CCG TTC CAT GGC TAT AGC AAG AGC					
GTA GTG GCT CCC CCT CTT GGG GGT CCC CTG TGA AAA CGG GGC AAG GTA CCG ATA TCG TTC TCG					
H H R G G E P P G D T F A P F H G Y S K S					
2780	2790	2800	2810	2820	2830
GAG GAC CTC TCT ACA GGG GTC CCT AAG CCC CCT GCG GCC TCC ATC CTT CAC AGC CAC AGC TAC					
CTC CTG GAG AGA TGT CCC CAG GGA TTC GGG GGA CGC CGG AGG TAG GAA GTG TCG GTG TCG ATG					
E D L S T G V P K P P A A S I L H S H S Y					
2840	2850	2860	2870	2880	2890
AGT GAT GAG TTT GGA CCC TCT GGT ACT GAT TTT ACC CGT CGG CAG CTC TCA CTT CAG GAC AAC					
TCA CTA CTC AAA CCT GGG AGA CCA TGA CTA AAA TGG GCA GCC GTC GAG AGT GAA GTC CTG TTG					
S D E F G P S G T D F T R R Q L S L Q D N					
2900	2910	2920	2930	2940	2950
CTA CAG CAC ATG CTC TCC CCG CCC CAG ATC ACC ATC GGT CCC CAG AGG CCA GCT CCC TCA GGG					
GAT GTC GTG TAC GAG AGG GGC GGC GTC TAG TGG TAG CCA GGC GTC TCC GGT CGA GGG AGT CCC					
L Q H M L S P P Q I T I G P Q R P A P S G					
2970	2980	2990	3000	3010	3020
CCA GGA GGG GGC AGT GGT GGG GGC AGT GGT GGG GGC GGT GGG GGC CAG CCA CCT CCC TTG CAG					
GGT CCT CCC CCG TCA CCA CCC CCG TCA CCA CCC CCG CCA CCC CCG GTC GGT GGA GGG AAC GTC					
P G G G S G G G S G G G G G G G G Q P P P L Q					
3030	3040	3050	3060	3070	3080
AGG GGC AAA TCT CAG CAG TTG ACA GTG AGT GCT GCC CAG AAA CCC CGG CCG TCC AGC GGG AAC					
TCC CCG TTT AGA GTC GTC AAC TGT CAC TCA CGA CGG GTC TTT GGG GCC GGC AGG TCG CCC TTG					
R G K S Q Q L T V S A A Q K P R P S S G N					
3090	3100	3110	3120	3130	3140
CTA TTG CAG TCC CCG GAA CCA AGT TAT GGT CCT GCC CGT CCA CGG CAA CAG AGC CTC AGC AAA					
GAT AAC GTC AGG GGC CTT GGT TCA ATA CCA GGA CGG GCA GGT GCC GTT GTC TCG GAG TCG TTT					
L L Q S P E P S Y G P A R P R Q Q S L S K					
3160	3170	3180	3190	3200	3210
GAG GGC AGC ATT GGG GGC AGC GGG GGC AGC GGT GGC GGA GGG GGT GGG GGG CTC AAG CCC TCC					
CTC CCG TCG TAA CCC CCG TCG CCC CCG TCG CCA CCG CCT CCC CCA CCC CCC GAG TTC GGG AGG					
E G S I G S G S G S G G G G G G G G L K P S					
3220	3230	3240	3250	3260	3270
ATC ACC AAG CAG CAT TCC CAG ACT CCA TCC ACG CTG AAC CCC ACG ATG CCG GCC TCG GAG CGG					
TAG TGG TTC GTC GTA AGG GTC TGA GGT AGG TGC GAC AAT TTG GGG TGC TAC GGC CGG AGC CTC GCC					
I T K Q H S Q T P S T L N P T M P A S E R					

FIGURE 2E



3280	3290	3300	3310	3320	3330
ACT GTA GCC TGG GTG TCC AAT ATG CCT CAC CTG TCC GCT GAC ATC GAG AGT GCA CAC ATT GAG					
TGA CAT CGG ACC CAC AGG TTA TAC GGA GTG GAC AGG CGA CTG TAG CTC TCA CGT GTG TAA CTC					
T V A W V S N M P H L S A D I E S A H I E					
3340	3350	3360	3370	3380	3390
CGG GAA GAG TAC AAG CTG AAG GAG TAC TCG AAG TCC ATG GAC GAG AGC CGA CTG GAC AGG GTG					
GCC CTT CTC ATG TTC GAC TTC CTC ATG AGC TTC AGG TAC CTG CTC TCG GCT GAC CTG TCC CAC					
R E E Y K L K E Y S K S M D E S R L D R V					
3410	3420	3430	3440	3450	3460
AAG GAG TAC GAG GAG GAG ATC CAC TCA CTG AAG GAA AGG CTA CAC ATG TCC AAC CGG AAG CTG					
TTC CTC ATG CTC CTC CTC TAG GTG AGT GAC TTC CTT TCC GAT GTG TAC AGG TTG GCC TTC GAC					
K E Y E E E I H S L K E R L H M S N R K L					
3470	3480	3490	3500	3510	3520
GAA GAG TAC GAG CGG AGG CTG CTG TCC CAG GAA GAG CAG ACC AGC AAG ATC CTG ATG CAG TAC					
CTT CTC ATG CTC GCC TCC GAC GAC AGG GTC CTT CTC GTC TGG TCG TTC TAG GAC TAC GTC ATG					
E E Y E R R L L S Q E E Q T S K I L M Q Y					
3530	3540	3550	3560	3570	3580
CAA GCC CGC CTG GAG CAG AGC GAG AAG CGC TTG AGG CAG CAG CAG GTG GAG AAG GAC TCC CAG					
GTT CGG GCG GAC CTC GTC TCG CTC TTC GCG AAC TCC GTC GTC GTC CAC CTC TTC CTG AGG GTC					
Q A R L E Q S E K R L R Q Q Q V E K D S Q					
3600	3610	3620	3630	3640	3650
ATC AAG AGC ATC ATT GGC AGG CTG ATG CTG GTG GAG GAG GAG CTG CGC CGG GAC CAC CCC GCC					
TAG TTC TCG TAG TAA CCG TCC GAC TAC GAC CAC CTC CTC CTC GAC GCG GCC CTG GTG GGG CGG					
I K S I I G R L M L V E E E L R R D H P A					
3660	3670	3680	3690	3700	3710
ATG GCT GAG CCG CTG CCT GAA CCC AAG AAG AGG CTG CTC GAC GCT CAG AGA GGC AGC TTC CCC					
TAC CGA CTC CAG GGC GAC GGA CTT GGG TTC TTC TCC GAC GAG CTG CGA GTC TCT TCG TCG AAG GGG					
M A E P L P E P K K R L L D A Q R G S F P					
3720	3730	3740	3750	3760	3770
CCT TGG GTC CAA CAA ACC CGC GTG TGA CGC TGG CCC CAC CTT GGA ACG GCC TGG CCC CCC CAG					
GGA ACC CAG GAT GTT TGG GCG CAC ACT GCG ACC GGG GTG GAA CCT TGC CGG ACC GGG GGG GTC					
P W V Q Q T * R V R W P H L G T A W P P Q					
3790	3800	3810	3820	3830	3840
CCC CAC CCC CCC CAC CCC GGC TGC AGA TCA CAG AGA ACG GCG GCG AGT TCC GGA ACA CCG CAG ACC					
GGG GTG GGG GGG GTG GGG CCG ACG TCT AGT GTC TCT TGC CGC TCA AGG CCT TGT GGC GTC TGG					
P H P P H P G C R S Q R T A S S G T P Q T					
3850	3860	3870	3880	3890	3900
ACT AGC CCA CCC AGC ATC ACA GAC CTC CTT CCC TGT GCA CCC TAC CCC GGC CCA CCC AGC GTC					
TGA TCG GGT GGG TCG TAG TGT CTG GAG GAA GGG ACA CGT GGG ATG GGG CCG GGT GGG TCG CAG					
T S P P S I T D L L P C A P Y P G P P S V					

FIGURE 2F



3910	3920	3930	3940	3950	3960
ACA GAC CTC CTT CCC AGT GCA CCC GAC CCT GGA ACA TCA CCA ACC ACC AGG ACT GGA CGT CAC					
TGT CTG GAG GAA GGG TCA CGT GGG CTG GGA CCT TGT AGT GGT TGG TGG TCC TGA CCT GCA GTG					
T D L L P S A P D P G T S P T T R T G R H					
3970	3980	3990	4000	4010	4020
CAA GGG ACA GCG GGA TTG TCT CCC TTA ACG CCT CCT TGG GGC ACC CAT CTG TCA ACC CCA CTG					
GTT CCC TGT CGC CCT AAC AGA GGG AAT TGC GGA GGA ACC CCG TGG GTA GAC AGT TGG GGT GAC					
Q G T A G L S P L T P P W G T H L S T P L					
4040	4050	4060	4070	4080	4090
CTC CAT TCC AGG AGG GAG AGT GGG ACC CTC AGC TGC CCT CTC ACC CCA GGA CAC CAC CTA CCC					
GAG GTA AGG TCC TCC CTC TCA CCC TGG GAG TCG ACG GGA GAG TGG GGT CCT GTG GTG GAT GGG					
L H S R R E S G T L S C P L T P G H H L P					
4100	4110	4120	4130		
CAC ACA GAC CCC TTC ACT CTG GGG TGC TAT CCC CAT CCT					
GTG TGT CTG GGG AAG TGA GAC CCC ACG ATA GGG GTA GGA					
H T D P F T L G C Y P H P					

FIGURE 2G



	10		20		30		40		50		60									
TAG	GGA	GAG	ACT	GAG	CTG	CCC	CAA	GCA	CCC	CAT	TTC	CCA	TTT	GCT	CCC	CAG	CAA	GGC	TTC	CTG
ATC	CCT	CTC	TGA	CTC	GAC	GGG	GTT	CGT	GGG	GTA	AAG	GGT	AAA	CGA	GGG	GTC	GTT	CCG	AAG	GAC
*	G	E	T	E	L	P	Q	A	P	H	F	P	F	A	P	Q	Q	G	F	L
	70		80		90		100		110		120									
AGC	CGG	AGG	CTA	AAA	AGC	TCC	ATC	AAA	CGT	ACA	AAG	TCA	CAA	CCC	AAA	CTT	GAC	CGG	ACC	AGC
TCG	GCC	TCC	GAT	TTT	TCG	AGG	TAG	TTT	GCA	TGT	TTC	AGT	GTT	GGG	TTT	GAA	CTG	GCC	TGG	TCG
S	R	R	L	K	S	S	I	K	R	T	K	S	Q	P	K	L	D	R	T	S
	130		140		150		160		170		180									
AGC	TTT	CGA	CAG	ATC	CTG	CCT	CGC	TTC	CGA	AGT	GCT	GAC	CAT	GAC	CGG	GCC	CGG	CTG	ATG	CAG
TCG	AAA	GCT	GTC	TAG	GAC	GGA	GCG	AAG	GCT	TCA	CGA	CTG	GTA	CTG	GCC	CGG	GCC	GAC	TAC	GTC
S	F	R	Q	I	L	P	R	F	R	S	A	D	H	D	R	A	R	L	M	Q
	190		200		210		220		230		240		250							
AGC	TTC	AAG	GAG	TCT	CAC	TCC	CAT	GAG	TCC	CTG	CTG	AGT	CCC	AGC	AGT	GCT	GCT	GAG	GCC	CTG
TCG	AAG	TTC	CTC	AGA	GTG	AGG	GTA	CTC	AGG	GAC	GAC	TCA	GGG	TCG	TCA	CGA	CGA	CTC	CGG	GAC
S	F	K	E	S	H	S	H	E	S	L	L	S	P	S	S	A	A	E	A	L
	260		270		280		290		300		310									
GAG	CTC	AAC	CTG	GAT	GAA	GAC	TCC	ATT	ATC	AAG	CCA	GTA	CAC	AGC	TCC	ATC	CTG	GGC	CAG	GAG
CTC	GAG	TTG	GAC	CTA	CTT	CTG	AGG	TAA	TAG	TTC	GGT	CAT	GTG	TCG	AGG	TAG	GAC	CCG	GTC	CTC
E	L	N	L	D	E	D	S	I	I	K	P	V	H	S	S	I	L	G	Q	E
	320		330		340		350		360		370									
TTC	TGC	TTT	GAG	GTA	ACA	ACA	TCG	TCT	GGG	ACA	AAA	TGT	TTT	GCC	TGT	CGG	TCT	GCA	GCC	GAA
AAG	ACG	AAA	CTC	CAT	TGT	TGT	AGC	AGA	CCC	TGT	TTT	ACA	AAA	CGG	ACA	GCC	AGA	CGT	CGG	CTT
F	C	F	E	V	T	T	S	S	G	T	K	C	F	A	C	R	S	A	A	E
	380		390		400		410		420		430		440							
AGG	GAC	AAA	TGG	ATT	GAG	AAT	CTA	CAG	AGG	GCT	GTG	AAA	CCC	AAC	AAG	GAC	AAC	AGC	CGC	CGG
TCC	CTG	TTT	ACC	TAA	CTC	TTA	GAT	GTC	TCC	CGA	CAC	TTT	GGG	TTG	TTC	CTG	TTG	TCG	GCG	GCC
R	D	K	W	I	E	N	L	Q	R	A	V	K	P	N	K	D	N	S	R	R
	450		460		470		480		490		500									
GTA	GAT	AAC	GTG	CTG	AAA	CTA	TGG	ATC	ATA	GAA	GCT	CGA	GAG	CTG	CCC	CCC	AAG	AAG	CGA	TAT
CAT	CTA	TTG	CAC	GAC	TTT	GAT	ACC	TAG	TAT	CTT	CGA	GCT	CTC	GAC	GGG	GGG	TTC	TTC	GCT	ATA
V	D	N	V	L	K	L	W	I	I	E	A	R	E	L	P	P	K	K	R	Y
	510		520		530		540		550		560									
TAC	TGC	GAG	TTA	TGC	CTG	GAC	GAC	ATG	CTC	TAT	GCA	CGG	ACC	ACT	TCC	AAG	CCC	CGC	TCA	GCC
ATG	ACG	CTC	AAT	ACG	GAC	CTG	CTG	TAC	GAG	ATA	CGT	GCC	TGG	TGA	AGG	TTC	GGG	GCG	AGT	CGG
Y	C	E	L	C	L	D	D	M	L	Y	A	R	T	T	S	K	P	R	S	A
	570		580		590		600		610		620		630							
TCA	GGA	GAC	ACT	GTC	TTT	TGG	GGC	GAG	CAC	TTC	GAG	TTT	AAC	AAC	CTG	CCT	GCT	GTC	CGG	GCG
AGT	CCT	CTG	TGA	CAG	AAA	ACC	CCG	CTC	GTG	AAG	CTC	AAA	TTG	TTG	GAC	GGA	CGA	CAG	GCC	CGC
S	G	D	T	V	F	W	G	E	H	F	E	F	N	N	L	P	A	V	R	A

FIGURE 3A



640										650										660										670										680										690																			
CTG	CGG	CTG	CAT	CTG	TAC	CGT	GAC	TCG	GAC	AAA	AAG	CGG	AAG	AAG	GAC	AAG	GCA	GGC	TAC	GTT	CTG	GCC	GAC	GTA	GAC	ATG	GCA	CTG	AGC	CTG	TTT	TTC	GCC	TTC	TTC	CTG	TTC	CGT	CCG	ATG	CAA	L	R	L	H	L	Y	R	D	S	D	K	K	R	K	K	D	K	A	G	Y	V							
700										710										720										730										740										750																			
GGC	CTG	GTG	ACT	GTT	CCA	GTG	GCC	ACC	CTG	GCT	GGG	CGC	CAC	TTC	ACA	GAG	CAG	TGG	TAC	CCC	CCG	GAC	CAC	TGA	CAA	GGT	CAC	CGG	TGG	GAC	CGA	CCC	GCG	GTG	AAG	TGT	CTC	GTC	ACC	ATG	GGG	G	L	V	T	V	P	V	A	T	L	A	G	R	H	F	T	E	Q	W	Y	P							
780										790										800										810										820										830																			
GTG	ACC	CTG	CCA	ACA	GGA	AGT	GGG	GGC	TCT	GGG	GGT	ATG	GGC	TCG	GGG	GGA	GGA	GGG	GGG	TCA	CAC	TGG	GAC	GGT	TGT	CCT	TCA	CCC	CCG	AGA	CCC	CCA	TAC	CCG	AGC	CCC	CCT	CCT	CCC	CCC	AGT	V	T	L	P	T	G	S	G	G	S	G	G	M	G	S	G	G	G	G	G	S							
820										830										840										850										860										870										880									
GGG	GGC	GGC	TCA	GGG	GGC	AAA	GGG	AAA	GGA	GGC	TGT	CCT	GCT	GTG	CGG	CTG	AAG	GCC	CGT	TAC	CCC	CCG	CCG	AGT	CCC	CCG	TTT	CCC	TTT	CCT	CCG	ACA	GGA	CGA	CAC	GCC	TTC	CGG	GCA	ATG	G	G	G	S	G	G	K	G	K	G	C	P	A	V	R	L	K	A	R	Y									
890										900										910										920										930										940																			
CAG	ACA	ATG	AGT	ATC	CTG	CCC	ATG	GAG	CTA	TAT	AAG	GAG	TTT	GCA	GAA	TAT	GTG	ACC	AAC	CAC	GTC	TGT	TAC	TCA	TAG	GAC	GGG	TAC	CTC	GAT	ATA	TTC	CTC	AAA	CGT	CTT	ATA	CAC	TGG	TTG	GTG	Q	T	M	S	I	L	P	M	E	L	Y	K	E	F	A	E	Y	V	T	N	H							
950										960										970										980										990										1000																			
TAC	CGC	ATG	CTG	TGT	GCC	GTG	CTG	GAG	CCC	GCC	CTC	AAT	GTC	AAG	GGC	AAG	GAG	GAG	GTC	GCT	ATG	GCG	TAC	GAC	ACA	CGG	CAC	GAC	CTC	GGG	CGG	GAG	TTA	CAG	TTC	CCG	TTC	CTC	CTC	CAG	CGA	Y	R	M	L	C	A	V	L	E	P	A	L	N	V	K	G	K	E	E	V	A							
1010										1020										1030										1040										1050										1060										1070									
AGT	GCA	CTG	GTT	CAC	ATC	CTG	CAA	AGC	ACA	GGC	AAG	GCC	AAG	GAC	TTC	CTT	TCA	GAC	ATG	GCC	TCA	CGT	GAC	CAA	GTG	TAG	GAC	GTT	TCG	TGT	CCG	TTC	CGG	TTC	CTG	AAG	GAA	AGT	CTG	TAC	CGG	S	A	L	V	H	I	L	Q	S	T	G	K	A	K	D	F	L	S	D	M	A							
1080										1090										1100										1110										1120										1130																			
ATG	TCA	GAG	GTA	GAC	CGG	TTC	ATG	GAG	CGG	GAA	CAC	CTC	ATA	TTC	CGC	GAG	AAC	ACG	CTC	GCC	TAC	AGT	CTC	CAT	CTG	GCC	AAG	TAC	CTC	GCC	CTT	GTG	GAG	TAT	AAG	GCG	CTC	TTG	TGC	GAG	CGG	M	S	E	V	D	R	F	M	E	R	E	H	L	I	F	R	E	N	T	L	A							
1140										1150										1160										1170										1180										1190																			
ACT	AAA	GCC	ATA	GAA	GAG	TAT	ATG	AGA	CTG	ATT	GGC	CAG	AAA	TAC	CTC	AAG	GAT	GCC	ATT	GGG	TGA	TTT	CGG	TAT	CTT	CTC	ATA	TAC	TCT	GAC	TAA	CCG	GTC	TTT	ATG	GAG	TTC	CTA	CGG	TAA	CCC	T	K	A	I	E	E	Y	M	R	L	I	G	Q	K	Y	L	K	D	A	I	G							
1200										1210										1220										1230										1240										1250										1260									
GAG	TTC	ATC	CGG	GCT	CTG	TAT	GAA	TCT	GAG	GAG	AAC	TGT	GAA	GTA	GAC	CCC	ATC	AAG	TGC	ACA	CTC	AAG	TAG	GCC	CGA	GAC	ATA	CTT	AGA	CTC	CTC	TTG	ACA	CTT	CAT	CTG	GGG	TAG	TTC	ACG	TGT	E	F	I	R	A	L	Y	E	S	E	E	N	C	E	V	D	P	I	K	C	T							

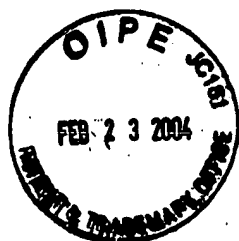
FIGURE 3B





1270										1280										1290										1300										1310										1320																			
*										*										*										*										*										*																			
GCG	TCC	AGT	CTG	GCA	GAG	CAC	CAG	GCC	AAC	CTG	CGG	ATG	TGC	TGT	GAG	TTG	GCC	CTG	TGC	AAG	GCG	AGG	TCA	GAC	CGT	CTC	GTG	GTC	CGG	TTG	GAC	GCC	TAC	ACG	ACA	CTC	AAC	CGG	GAC	ACG	TTC																												
A	S	S	L	A	E	H	Q	A	N	L	R	M	C	C	E	L	A	L	C	K	A	S	S	L	A	E	H	Q	A	N	L	R	M	C	C	E	L	A	L	C	K																												
1330										1340										1350										1360										1370										1380																			
*										*										*										*										*										*																			
GTG	GTC	AAC	TCC	CAT	TGC	GTG	TTC	CCG	AGG	GAG	CTG	AAG	GAG	GTG	TTT	GCA	TCA	TGG	CGG	CTG	CAC	CAG	TTG	AGG	GTA	ACG	CAC	AAG	GGC	TCC	CTC	GAC	TTC	CTC	CAC	AAA	CGT	AGT	ACC	GCC	GAC																												
V	V	N	S	H	C	V	F	P	R	E	L	K	E	V	F	A	S	W	R	L	V	V	N	S	H	C	V	F	P	R	E	L	K	E	V	F	A	S	W	R	L																												
1390										1400										1410										1420										1430										1440																			
*										*										*										*										*										*																			
CGC	TGT	GCA	GAG	CGG	GGC	CGG	GAG	GAC	ATT	GCT	GAC	AGG	CTG	ATC	AGC	GCC	TCG	CTC	TTC	CTG	GCG	ACA	CGT	CTC	GCC	CCG	GCC	CTC	CTG	TAA	CGA	CTG	TCC	GAC	TAG	TCG	CGG	AGC	GAG	AAG	GAC																												
R	C	A	E	R	G	R	E	D	I	A	D	R	L	I	S	A	S	L	F	L	R	C	A	E	R	G	R	E	D	I	A	D	R	L	I	S	A	S	L	F	L																												
1450										1460										1470										1480										1490										1500										1510									
*										*										*										*										*										*																			
CGC	TTC	CTC	TGC	CCG	GCC	ATC	ATG	TCG	CCC	AGT	CTG	TTT	GGA	CTG	ATG	CAG	GAG	TAC	CCA	GAT	GCG	AAG	GAG	ACG	GGC	CGG	TAG	TAC	AGC	GGG	TCA	GAC	AAA	CCT	GAC	TAC	GTC	CTC	ATG	GGT	CTA																												
R	F	L	C	P	A	I	M	S	P	S	L	F	G	L	M	Q	E	Y	P	D	R	F	L	C	P	A	I	M	S	P	S	L	F	G	L	M	Q	E	Y	P	D																												
1520										1530										1540										1550										1560										1570																			
*										*										*										*										*										*																			
GAG	CAG	ACC	TCA	CGA	ACC	CTC	ACC	CTC	ATC	GCC	AAG	GTT	ATC	CAG	AAC	CTG	GCC	AAC	TTT	TCC	CTC	GTC	TGG	AGT	GCT	TGG	GAG	TGG	GAG	TAG	CGG	TTC	CAA	TAG	GTC	TTG	GAC	CGG	TTG	AAA	AGG																												
E	Q	T	S	R	T	L	T	L	I	A	K	V	I	Q	N	L	A	N	F	S	E	Q	T	S	R	T	L	T	L	I	A	K	V	I	Q	N	L	A	N	F	S																												
1580										1590										1600										1610										1620										1630																			
*										*										*										*										*										*																			
AAG	TTT	ACC	TCA	AAG	GAG	GAC	TTC	CTG	GGC	TTC	ATG	AAC	GAG	TTT	CTG	GAG	CTG	GAA	TGG	GGT	TTC	AAA	TGG	AGT	TTC	CTC	CTG	AAG	GAC	CCG	AAG	TAC	TTG	CTC	AAA	GAC	CTC	GAC	CTT	ACC	CCA																												
K	F	T	S	K	E	D	F	L	G	F	M	N	E	F	L	E	L	E	W	G	K	F	T	S	K	E	D	F	L	G	F	M	N	E	F	L	E	L	E	W	G																												
1640										1650										1660										1670										1680										1690										1700									
*										*										*										*										*										*																			
TCT	ATG	CAG	CAA	TTC	TTG	TAT	GAG	ATA	TCC	AAC	CTG	GAC	ACA	CTG	ACC	AAC	AGC	AGC	AGT	TTT	AGA	TAC	GTC	GTT	AAG	AAC	ATA	CTC	TAT	AGG	TTG	GAC	CTG	TGT	GAC	TGG	TTG	TCG	TCG	TCA	AAA																												
S	M	Q	Q	F	L	Y	E	I	S	N	L	D	T	L	T	N	S	S	S	F	S	M	Q	Q	F	L	Y	E	I	S	N	L	D	T	L	T	N	S	S	S	F																												
1710										1720										1730										1740										1750										1760																			
*										*										*										*										*										*																			
GAG	GGC	TAC	ATA	GAC	TTG	GGC	CGC	GAG	CTC	TCC	ACA	CTT	CAC	GCC	CTG	CTC	TGG	GAG	GTG	CTG	CTC	CCG	ATG	TAT	CTG	AAC	CCG	GCG	CTC	GAG	AGG	TGT	GAA	GTG	CGG	GAC	GAG	ACC	CTC	CAC	GAC																												
E	G	Y	I	D	L	G	R	E	L	S	T	L	H	A	L	L	W	E	V	L	E	G	Y	I	D	L	G	R	E	L	S	T	L	H	A	L	L	W	E	V	L																												
1770										1780										1790										1800										1810										1820																			
*										*										*										*										*										*																			
CCC	CAG	CTC	AGC	AAG	GAA	GCC	CTC	CTG	AAG	CTG	GGC	CCG	CTG	CCC	CGG	CTC	CTC	AGC	GAC	ATC	GGG	GTC	GAG	TCG	TTC	CTT	CGG	GAG	GAC	TTC	GAC	CCG	GGC	GAC	GGG	GCC	GAG	GAG	TCG	CTG	TAG																												
P	Q	L	S	K	E	A	L	L	K	L	G	P	L	P	R	L	L	S	D	I	P	Q	L	S	K	E	A	L	L	K	L	G	P	L	P	R	L	L	S	D	I																												
1830										1840										1850										1860										1870										1880										1890									
*										*										*										*										*										*																			
AGC	ACA	GCC	CTG	AGG	AAC	CCT	AAC	ATC	CAA	AGG	CAG	CCG	AGC	CGC	CAG	AGC	GAG	CGC	GCT	CGG	TCG	TGT	CGG	GAC	TCC	TTG	GGA	TTG	TAG	GTT	TCC	GTC	GGC	TCG	GCG	GTC	TCG	CTC	GCG	GCT	GCC																												
S	T	A	L	R	N	P	N	I	Q	R	Q	P	S	R	Q	S	E	R	A	R	S	T	A	L	R	N	P	N	I	Q	R	Q	P	S	R	Q	S	E	R	A	R																												

FIGURE 3C



1900										1910										1920										1930										1940										1950																																																	
* TCT CAG CCC ATG GTG CTG CGC GGG CCG TCA GCC GAA ATG CAG GGC TAC ATG ATG CGG GAC CTC AGA GTC GGG TAC CAC GAC GCG CCC GGC AGT CGG CTT TAC GTC CCG ATG TAC TAC GCC CTG GAG S Q P M V L R G P S A E M Q G Y M M R D L										* AAC AGC TCC ATC GAC CTT CAG TCC TTC ATG GCT CGA GGC CTC AAC AGC TCT ATG GAC ATG GCT TTG TCG AGG TAG CTG GAA GTC AGG AAG TAC CGA GCT CCG GAG TTG TCG AGA TAC CTG TAC CGA N S S I D L Q S F M A R G L N S S M D M A										* CGC CTC CCC TCC CCA ACC AAG GAG AAA CCC CCG CCG CCC CCT CCC GGT GGG GGT AAA GAC CTG GCG GAG GGG AGG GGT TGG TTC CTC TTT GGG GGC GGC GGG GGA GGG CCA CCC CCA TTT CTG GAC R L P S P T K E K P P P P P P G G G K D L										* 2080 * TTC TAT GTG AGC CGG CCA CCA CTG GCC CGG TCC TCC CCA GCA TAC TGC ACG AGC AGC TCG TCG GAC AAG ATA CAC TCG GCC GGT GGT P L A R S S P A Y C T S S S D										* 2150 * ATC ACA GAG CCG GAG CAG AAG ATG CTG AGT GTC AAC AAG AGT GTG TCC ATG CTG GAC CTG CAG TAG TGT GTC GGC CTC GTC TTC TAC TCA CAG TTG TTC TCA CAC CAC AGG TAC GAC CTG GAC GTC I T E P E Q K M L S V N K S V S M L D L Q										* 2210 * GGC GAC GGG CCT GGG GGC CGC CTT AAC AGC AGT AGT GTT TCC AAC CTG GCA GCT GTT GGG GAC CCG CTG CCC GGA CCC CCG GCG GAA TTG TCG TCA TCA CAA AGG TTG GAC CGT CGA CAA CCC CTG G D G P G G R L N S S S V S N L A A V G D										* 2270 * CTG TTG CAC TCA AGC CAG GCT TCA CTG ACA GCA GCC TTG GGG TTG CGG CCT GCA CCT GCC GGG GAC AAC GTG AGT TCG GTC CGA AGT GAC TGT CGT CGG AAC CCC AAC GCC GGA CGT GGA CGG CCC L L H S S Q A S L T A A L G L R P A P A G										* 2340 * CGC CTC TCC CAA GGG AGT GGC TCT TCC ATC ACA GCA GCC GGC ATG CGC CTC AGC CAG ATG GGT GCG GAG AGG GTT CCC TCA CCG AGA AGG TAG TGT CGT CGG CCG TAC GCG GAG TCG GTC TAC CCA R L S Q G S G S S I T A A G M R L S Q M G										* 2400 * GTC ACT ACG GAT GGT GTC CCC GCC CAG CAA CTG CGC ATC CCT CTT TCC TTC CAG AAC CCT CTC CAG TGA TGC CTA CCA CAG GGG CCG GTC GTT GAC GCG TAG GGA GAA AGG AAG GTC TTG GGA GAG V T T D G V P A Q Q L R I P L S F Q N P L										* 2460 * TTC CAT ATG GCT GCC GAT GGA CCA GGG CCC CCA GCA GGC CAT GGA GGG AGC AGT GGC CAT GGT AAG GTA TAC CGA CGG CTA CCT GGT CCC GGG GGT CGT CCG GTA CCT CCC TCG TCA CCG GTA CCA F H M A A D G P G P P A G H G G S S G H G									

FIGURE 3D

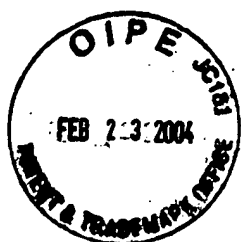


2530										2540										2550										12560										2570										2580																			
*										*										*										*										*										*																			
CCA	CCT	TCC	TCC	CAT	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAC	CAT	CAC	CAT	CAC	CAC	CGA	GGG	GGG	GGA	GAA	CCC	CCA	GGG	GGT	GGA	AGG	AGG	GTA	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG															
P	P	S	S	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	R	G	G	E	E	P	P	G	P	P	S	S	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H															
2590										2600										2610										2620										2630										2640																			
*										*										*										*										*										*																			
GAC	ACT	TTT	GCC	CCG	TTC	CAT	GGC	TAT	AGC	AAG	AGC	GAG	GAC	CTC	TCT	ACA	GGG	GTC	CCT	AAG	CTG	TGA	AAA	CGG	GGC	AAG	GTA	CCG	ATA	TCG	TTC	TCG	CTC	CTG	GAG	AGA	TGT	CCC	CAG	GGA	TTC	D	T	F	A	P	F	H	G	Y	S	K	S	E	D	L	S	T	G	V	P	K							
2650										2660										2670										2680										2690										2700																			
*										*										*										*										*										*																			
CCC	CCT	GCG	GCC	TCC	ATC	CTT	CAC	AGC	CAC	AGC	TAC	AGT	GAT	GAG	TTT	GGA	CCC	TCT	GGT	ACT	GGG	GGA	CGC	CGG	AGG	TAG	GAA	GTG	TCG	GTG	TCG	ATG	TCA	CTA	CTC	AAA	CCT	GGG	AGA	CCA	TGA	P	P	A	A	S	I	L	H	S	H	S	Y	S	D	E	F	G	P	S	G	T							
2710										2720										2730										2740										2750										2760										2770									
*										*										*										*										*										*																			
GAT	TTT	ACC	CGT	CGG	CAG	CTC	TCA	CTT	CAG	GAC	AAC	CTA	CAG	CAC	ATG	CTC	TCC	CCG	CCC	CAG	CTA	AAA	TGG	GCA	GCC	GTC	GAG	AGT	GAA	GTC	CTG	TTG	GAT	GTC	GTG	TAC	GAG	AGG	GGC	GGG	GTC	D	F	T	R	R	Q	L	S	L	Q	D	N	L	Q	H	M	L	S	P	P	Q							
2780										2790										2800										2810										2820										2830																			
*										*										*										*										*										*																			
ATC	ACC	ATC	GGT	CCC	CAG	AGG	CCA	GCT	CCC	TCA	GGG	CCA	GGA	GGG	GGC	AGT	GGT	GGG	GGC	AGT	GGT	GGG	GGC	AGT	GGT	GGG	GGC	AGT	GGT	GGG	GGC	AGT	GGT	GGG	GGC	AGT	GGT	GGG	GGC	AGT	GGT	I	T	I	G	P	Q	R	P	A	P	S	G	P	G	G	S	G	G	G	S								
2840										2850										2860										2870										2880										2890																			
*										*										*										*										*										*																			
GGT	GGG	GGC	GGT	GGG	GGC	CAG	CCA	CCT	CCC	TTG	CAG	AGG	GGC	AAA	TCT	CAG	CAG	TTG	ACA	GTG	CCA	CCC	CCG	CCA	CCC	CCG	GTC	GGT	GGA	GGG	AAC	GTC	TCC	CCG	TTT	AGA	GTC	GTC	AAC	TGT	CAC	G	G	G	G	G	Q	P	P	P	L	Q	R	G	K	S	Q	Q	L	T	V								
2900										2910										2920										2930										2940										2950										2960									
*										*										*										*										*										*																			
AGT	GCT	GCC	CAG	AAA	CCC	CGG	CCG	TCC	AGC	GGG	AAC	CTA	TTG	CAG	TCC	CCG	GAA	CCA	AGT	TAT	TCA	CGA	CGG	GTC	TTT	GGG	GCC	GGC	AGG	TCG	CCC	TTG	GAT	AAC	GTC	AGG	GGC	CTT	GGT	TCA	ATA	S	A	A	Q	K	P	R	P	S	S	G	N	L	L	Q	S	P	E	P	S	Y							
2970										2980										2990										3000										3010										3020																			
*										*										*										*										*										*																			
GGT	CCT	GCC	CGT	CCA	CGG	CAA	CAG	AGC	CTC	AGC	AAA	GAG	GGC	AGC	ATT	GGG	GGC	AGC	GGG	GGC	CCA	GGA	CGG	GCA	GGT	GCC	GTT	GTC	TCG	GAG	TCG	TTT	CTC	CCG	TCG	TAA	CCC	CCG	TCG	CCC	CCG	G	P	A	R	P	R	Q	Q	S	L	S	K	E	G	S	I	G	G	S	G	G							
3030										3040										3050										3060										3070										3080																			
*										*										*										*										*										*																			
AGC	GGT	GGC	GGA	GGG	GGT	GGG	GGG	CTC	AAG	CCC	TCC	ATC	ACC	AAG	CAG	CAT	TCC	CAG	ACT	CCA	TCG	CCA	CCG	CCT	CCC	CCA	CCC	CCC	GAG	TTC	GGG	AGG	TAG	TGG	TTC	GTC	GTA	AGG	GTC	TGA	GGT	S	G	G	G	G	G	G	G	L	K	P	S	I	T	K	Q	H	S	Q	T	P							
3090										3100										3110										3120										3130										3140										3150									
*										*										*										*										*										*																			
TCC	ACG	CTG	AAC	CCC	ACG	ATG	CCG	GCC	TCG	GAG	CGG	ACT	GTA	GCC	TGG	GTG	TCC	AAT	ATG	CCT	AGG	TGC	GAC	TTG	GGG	TGC	TAC	GGC	CGG	AGC	CTC	GCC	TGA	CAT	CGG	ACC	CAC	AGG	TTA	TAC	GGA	S	T	L	N	P	T	M	P	A	S	E	R	T	V	A	W	V	S	N	M	P							

FIGURE 3E



**FIGURE 3F**



3790	3800	3810	3820	3830	3840
*	*	*	*	*	*
CCT GGA ACA TCA CCA ACC ACC AGG ACT GGA CGT CAC CAA GGG ACA GCG GGA TTG TCT CCC TTA					
GGA CCT TGT AGT GGT TGG TGG TCC TGA CCT GCA GTG GTT CCC TGT CGC CCT AAC AGA GGG AAT					
P G T S P T T R T G R H Q G T A G L S P L					
3850	3860	3870	3880	3890	3900
*	*	*	*	*	*
ACG CCT CCT TGG GGC ACC CAT CTG TCA ACC CCA CTG CTC CAT TCC AGG AGG GAG AGT GGG ACC					
TGC GGA GGA ACC CCG TGG GTA GAC AGT TGG GGT GAC GAG GTA AGG TCC TCC CTC TCA CCC TGG					
T P P W G T H L S T P L L H S R R E S G T					
3910	3920	3930	3940	3950	3960
*	*	*	*	*	*
CTC AGC TGC CCT CTC ACC CCA GGA CAC CAC CTA CCC CAC ACA GAC CCC TTC ACT CTG GGG TGC					
GAG TCG ACG GGA GAG TGG GGT CCT GTG GTG GAT GGG GTG TGT CTG GGG AAG TGA GAC CCC ACG					
L S C P L T P G H H L P H T D P F T L G C					
3970	3980				
*	*				
TAT CCC CAT CCT					
ATA GGG GTA GGA					
Y P H P					

FIGURE 3F



1	MQSFKESHSHESLLSPSSAAEALELNLEDSIIKPVHSSILGQEFCEVTTSSGTCFAC	60
61	RSAAERDKWIENLQRAVKPNKDNSRRVDNVKLWIIARELPKKRYYCELCDDMLYAR	120
121	TTSKPRSASGDTVFWGEHFEFNNLPAVRALRLHLYRSDKKRKKDKAGYVGLVTVPVATL	180
181	AGRHFTEQWYPVTLPTGSGGGSGMGSGGGGGSGGGSGGKGKGGCPAVRLKARYQTMSILP	240
241	MELYKEFAEYVTNHYRMLCAVLEPALNVKGKEEVASALVHILQSTGKAKDFLSDMAMSEV	300
301	DRFMEREHLIFRENTLATKAIEEYMRLIGQKYLKDAIGEFIRALYESEENCEVDPIKCTA	360
361	SSLAEHQANLRMCCELALCKVVNSHCVFPRELKEVFASWRLRCAERGREDIADRLISASL	420
421	FLRFLCPAIMSPSLFGLMQEYPDEQTSRTLTTLIAKVIQNLANFSKFTSKEDFLGFMNEFL	480
481	ELEWGSQQFLYEISNLDTLTNSSSFEGYIDLGRELSTLHALLWEVLPQLSKEALLKLGP	540
541	LPRLSDISTALRNPNIQRQPSRQSERARSQPMVLRGPPSAEMQGYMMRDNLSSIDLQSF	600
601	ARGLNSSMDMARLPSPPTKEKPPPPPPGGGKDLFYVSRPPLARSSPAYCTSSSDITEPEQK	660
661	MLSVNKSVMMLDLQDGPGRNLNSSSVSNLAAVGDLLHSSQASLTAALGLRPAPAGRLSQ	720
721	GSGSSITAAGMRLSQMGVTTDGVPAAQLRIPLSFQNPFLHMAADGPGPPAGHGGSSGHGP	780
781	PSSHHHHHHHHHRGGEPPGDTFAPFHGYKSSEDLTGVPKPPAASILHSHSYSDEFGPS	840
841	GTDFTRRQLSLQDNLQHMLSPQITIGPQRPAPSGPGGGSGGGSGGGGGGQPPPLQRGKS	900
901	QQLTVSAAQKPRPSSGNLLQSPESYGPAPRQQLSKEGSIGSGSGSGGGGGGGLKPSI	960
961	TKQHSQTPSTLNPTMPASERTVAWVSNMPLHSADIESAHIEREEYKLKEYSKSMDESRLD	1020
1021	RVKEYEEEEIHSKERLHMSNRKLEEYERRLLSQEEQTSKILMQYQARLEQSEKRLRQQQV	1080
1081	EKDSQIKSIIIGRLMLVEEELRRDHPAMAEPLPEPKRLLDAQRGSFPPWVQQTRV	1135

FIGURE 4A

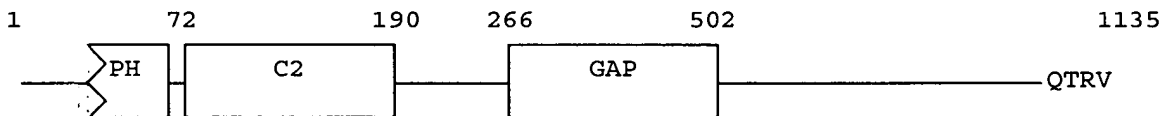


FIGURE 4B

				+	+	+		
GAPSYN	286	GKAKDFLSDMAMSEVDRFMEREHLIFRENTLATKAIEEYMRLIGQKYLKDAIGEFIRALYE	347					
rn GAP	755	KLESLLLCTLNDREIS-MEDEATTFRATTLASTLMEQYMKATATQFVHHALKDSILKIME	815					
hs NF1	1251	HLLYQLLWNMFSSKEVE-LADSMQTLFRGNLSLASKIMTFCFKVYGATYLQKLL-DPLLRIVI	1311					
GAPSYN	348	SEE-----NCEVDPIKCTAS-SLAEHQANLRMCCELALCKVVNSHCVFPRELKEVFASWRLR	403					
rn GAP	816	SKQ-----SCELSPSKLEKNEDVNTNLAHLLSILSELVEKIFMASEILPPTLRYIYGCLQKS	872					
hs NF1	1312	TSSDWQHVSFEVDPTRLEPSESLEENQRNLLQMTEKFFHAIISSSSEFPPQLRSVCHCLYQV	1372					
				++	+			+
GAPSYN	404	CAER--GREDIADRLISASLFLRFLCPAIMSPSLFGLMQEYPDEQTSRTLTTLIAKVIQNLAN	463					
rn GAP	873	VQHkWPTNNTMRTRVVSQGVFLRLICPAILNPRMFNIISDSPPIAARTLTLVAKSVQNLAN	934					
hs NF1	1373	VSQRFQNSIG---AVGSAMFLRFINPAIVSPYEAGILDKKPPPRIERGLKLMSKILQSIAN	1430					
				++				
GAPSYN	464	FSKFTSKEDFLGFMNEFLELE-WGSMQQFLYEISNLDTLT	502					
rn GAP	935	LVEFGAKEPYMEGVNPFIKSN-KHRMIMFLDELGNVPELP	973					
hs NF1	1431	HVLF-TKEEHMRPFNDFVKSNFDAARRFFLDIASDCPTSD	1469					

FIGURE 4C



# PLECKSTRIN HOMOLOGY (PH) DOMAIN ALIGNMENT

SynGAP-a	162	FKESHSHESL LP SSAA... ..EALEL NLD..... .EDSIKK	192
Hs p120	471	FYKNIVKKG Y LLKKGKG... ..KRWKNL YF ILEGSDAQLI YFESEK R ATK	515
Dm GAP1	759	PVLLKEGEGL MTKYPTSRKR FGRQFKQRHF RLTT..HSL S YAKSK..GKQ	804
Hs Plec	1	MEPKRIREGY LVKKGSV.....FNTWKPMWV VLLE..DGIE FYKKK.SDN	44

SynGAP-a	193	P..... ..VHSSIL GQ.EFCFEVT TSSGTKC... ..FACRSAAE	223
Hs p120	516	PKGLIDLSVC SVYVVHDSLF GR.PNCFQIV VQHFSEEHYI FYFAGETPEQ	564
Dm GAP1	805	PICDIPLQEI ASVEQLKDKS FKMQNCFKIV HNDRS..... LIVQTTNCVE	849
Hs Plec	45	PKGMIPLKGS TLTSPCQDFG KR.MFVFKIT TTKQQ....D HFFQAAFLEE	88

SynGAP-a	224	RDKWIENLQR AVKPNKDNSR	243
Hs p120	565	AEDWMKGLQA FCNLRKSSPG	584
Dm GAP1	850	EREWFDLLHK ICLMNSIRMQ	869
Hs Plec	89	RDAWVRDINK AIKCIEGGQK	108

FIGURE 5



## C2 DOMAIN ALIGNMENT

SynGAP-a	245	..VDNVLKLW	..IIEARELP	....PKKRY.	YCELCL....	DDMLYARTTS	281
Hs p120	592	..QVSSLVLH	..IEEAHKLP	...VKHFTNP	YCNIYL....	NSVQVAKTH.	629
Rn Syt II	151	DYDFQANQLT	VGVLQAAELP	ALDMGGTSDP	YVKVFLLPD.	.KKKKYETKV	198
Bt Rab 3A	411	LYDQDNSSLK	CTIIKAKGLK	PMDSNGLADP	YVKLHLLPGA	SKSNKLRTKT	460

SynGAP-a	282	KPRSASGDTV	FWGEHFEFNN	LP.AVRALRL	HLYRD.SDKK	RKKDKAGYVG	329
Hs p120	630	...AREGQNP	VWSEEFVFDD	LPPDINRFEI	TL....SNKT	.KKSKDPDIL	671
Rn Syt II	199	...HRKTLNP	AFNETFTFKV	..PYQELGGK	TLVMAIYDFD	RF.SKHDIIG	242
Bt Rab 3A	462	...LRNTRNP	IWNETLVYHG	I.TDEDMQRK	TLRISVCDED	KF.GHNEFIG	505

SynGAP-a	330	LVTVPVAT..	.....	.LAGRHFTEQ	WY.PVT.LPT	354
Hs p120	672	FMRCQLSR..	.....	.LQKGHATDE	WFLSSHIPL	698
Rn Syt II	243	EVKVPMTVD	.....	.L..GQPIEE	WRDLQG..G.	266
Bt Rab 3A	506	ETRFSLKKLK	PNQRK.NFNI	CL..ERVIPM	KRAGTTGSAR	542

**FIGURE 6**





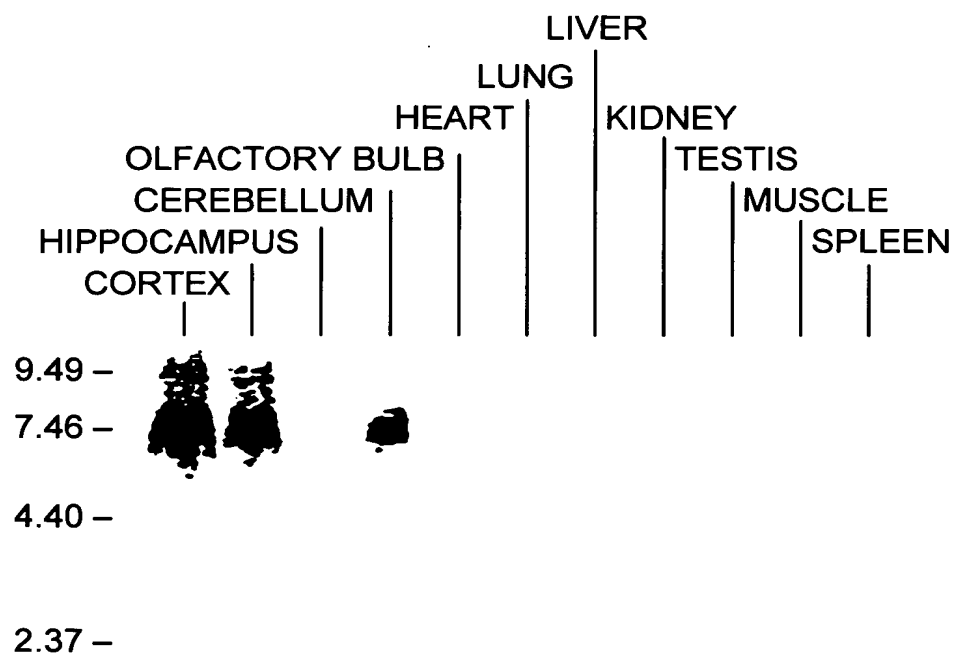


FIG. 7A

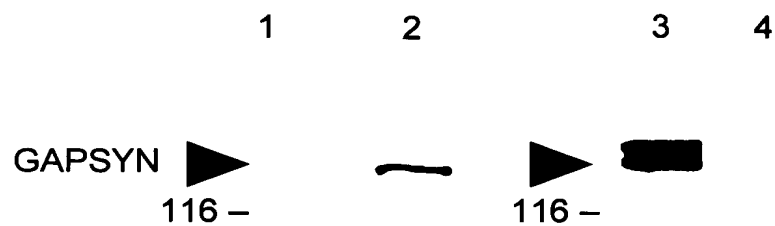


FIG. 7B



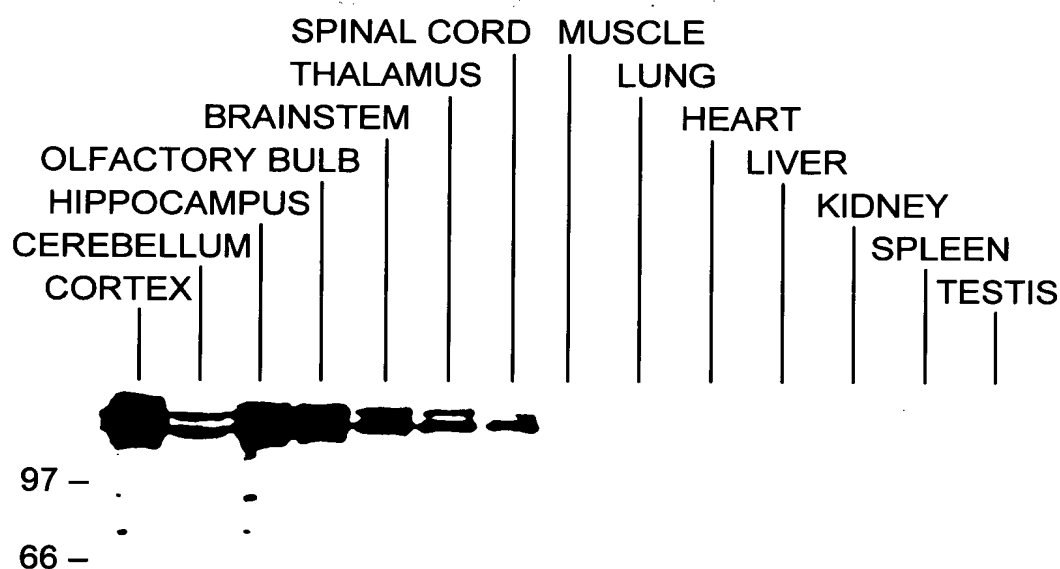
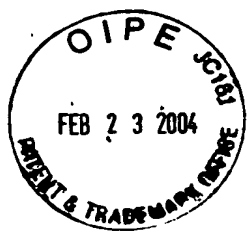


FIG. 7C

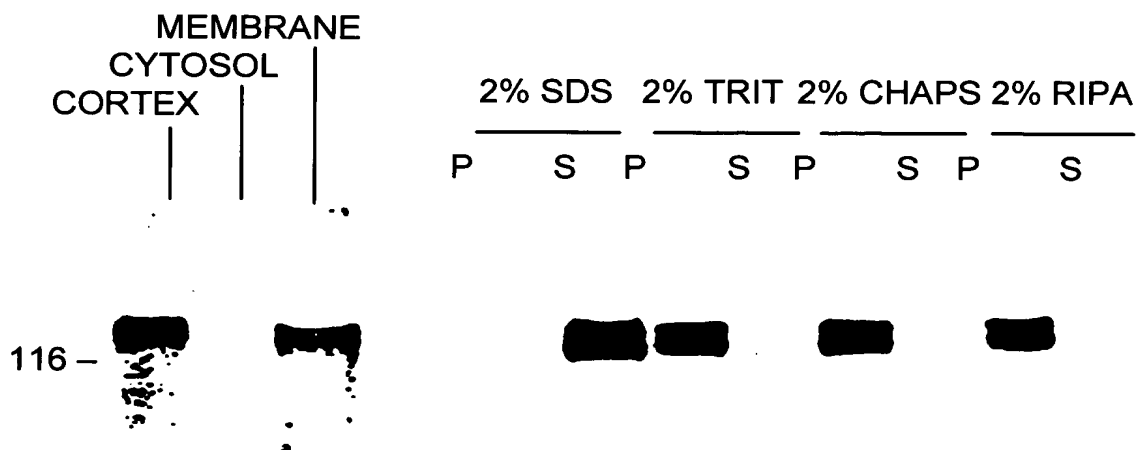


FIG. 7D

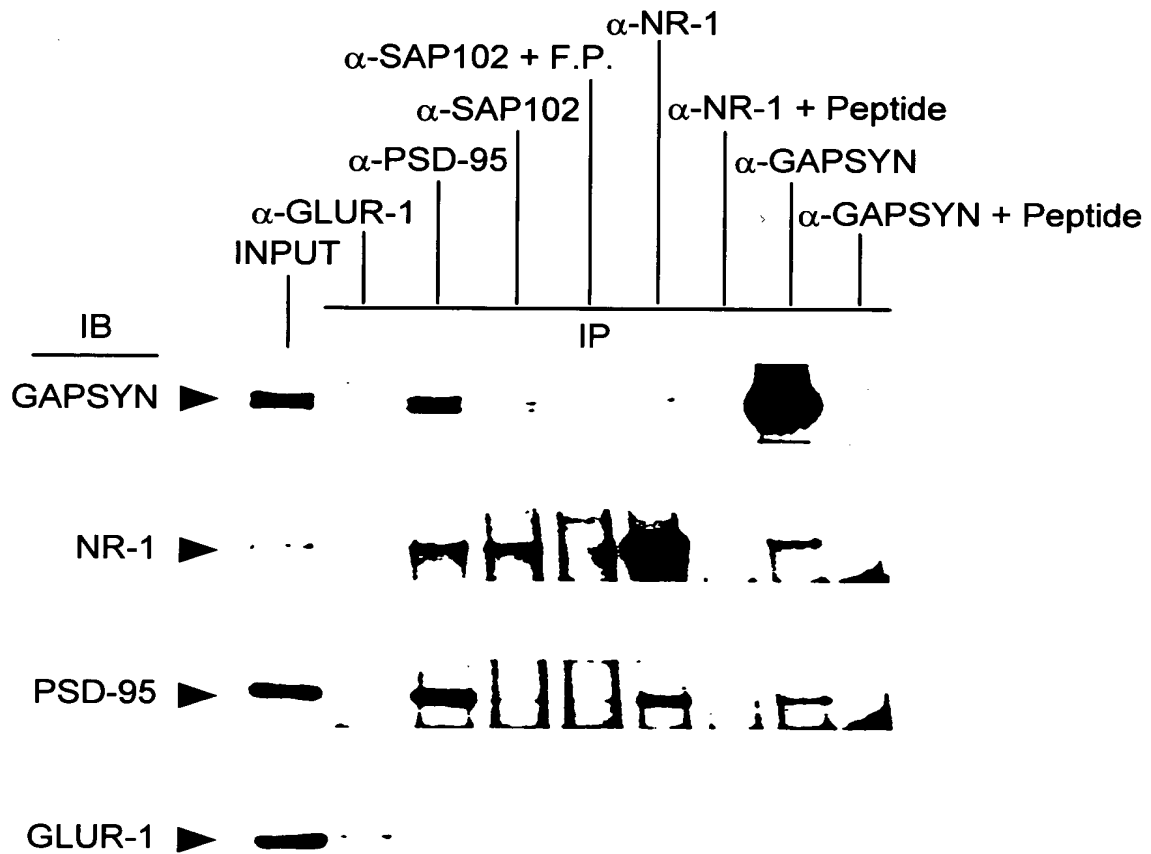
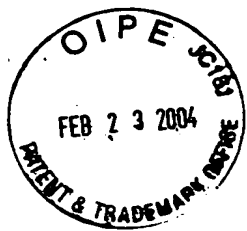


FIG. 8



GAPSYN

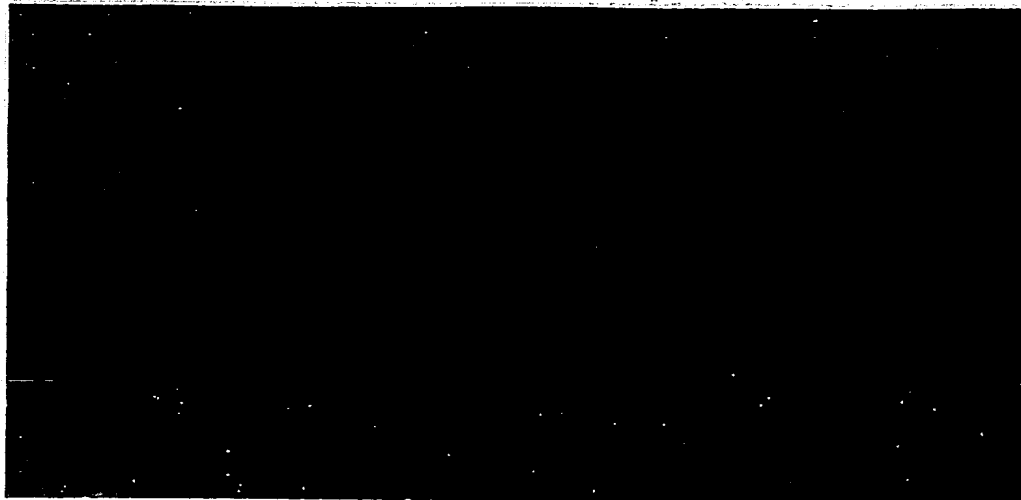


FIG. 9A

GAPSYN



FIG. 9B

SYNAPTOPHYSIN



FIG. 9C

OVERLAP

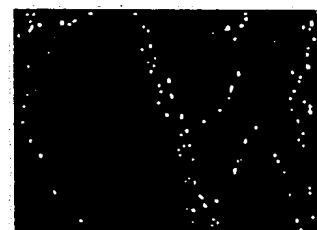


FIG. 9D

GAPSYN (BLOCK)



FIG. 9E

SYNAPTOPHYSIN



FIG. 9F



GAPSYN

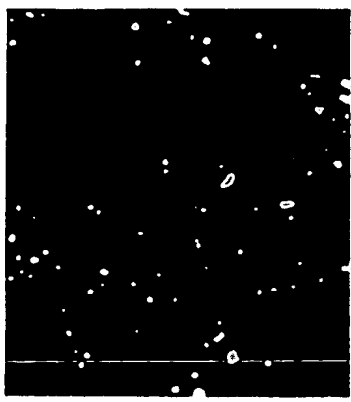


FIG. 10A

PSD-95



FIG. 10B

OVERLAP

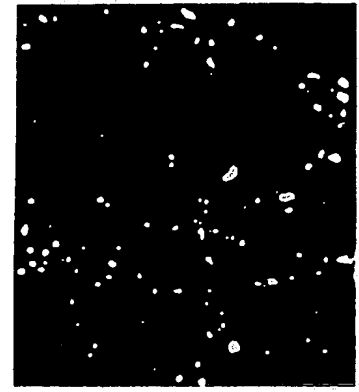


FIG. 10C



GAPSYN

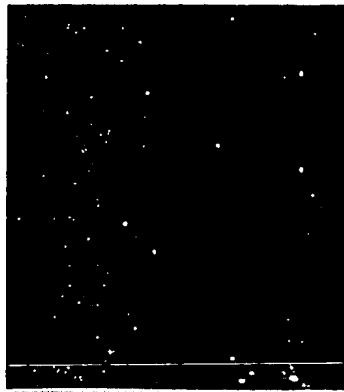


FIG. 10D

NR-1

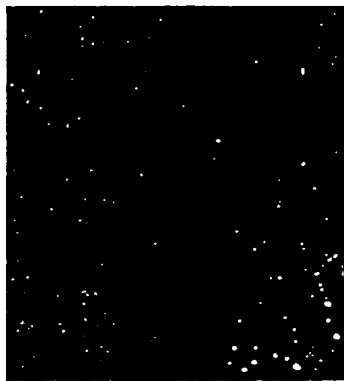


FIG. 10E

OVERLAP

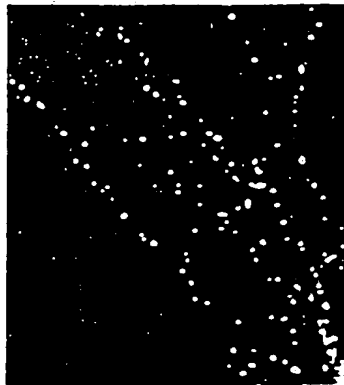


FIG. 10F

GAPSYN

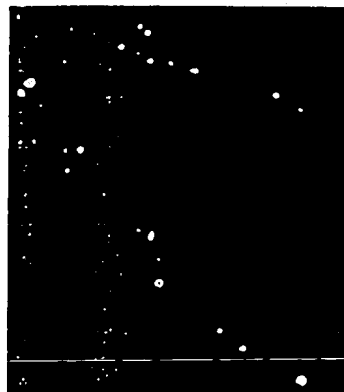


FIG. 10G

GAD



FIG. 10H

OVERLAP

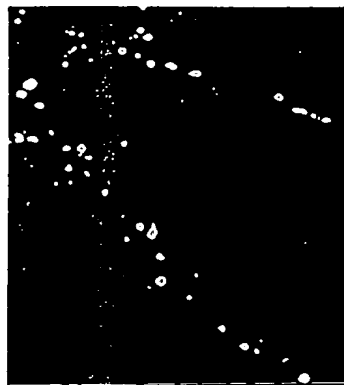


FIG. 10I

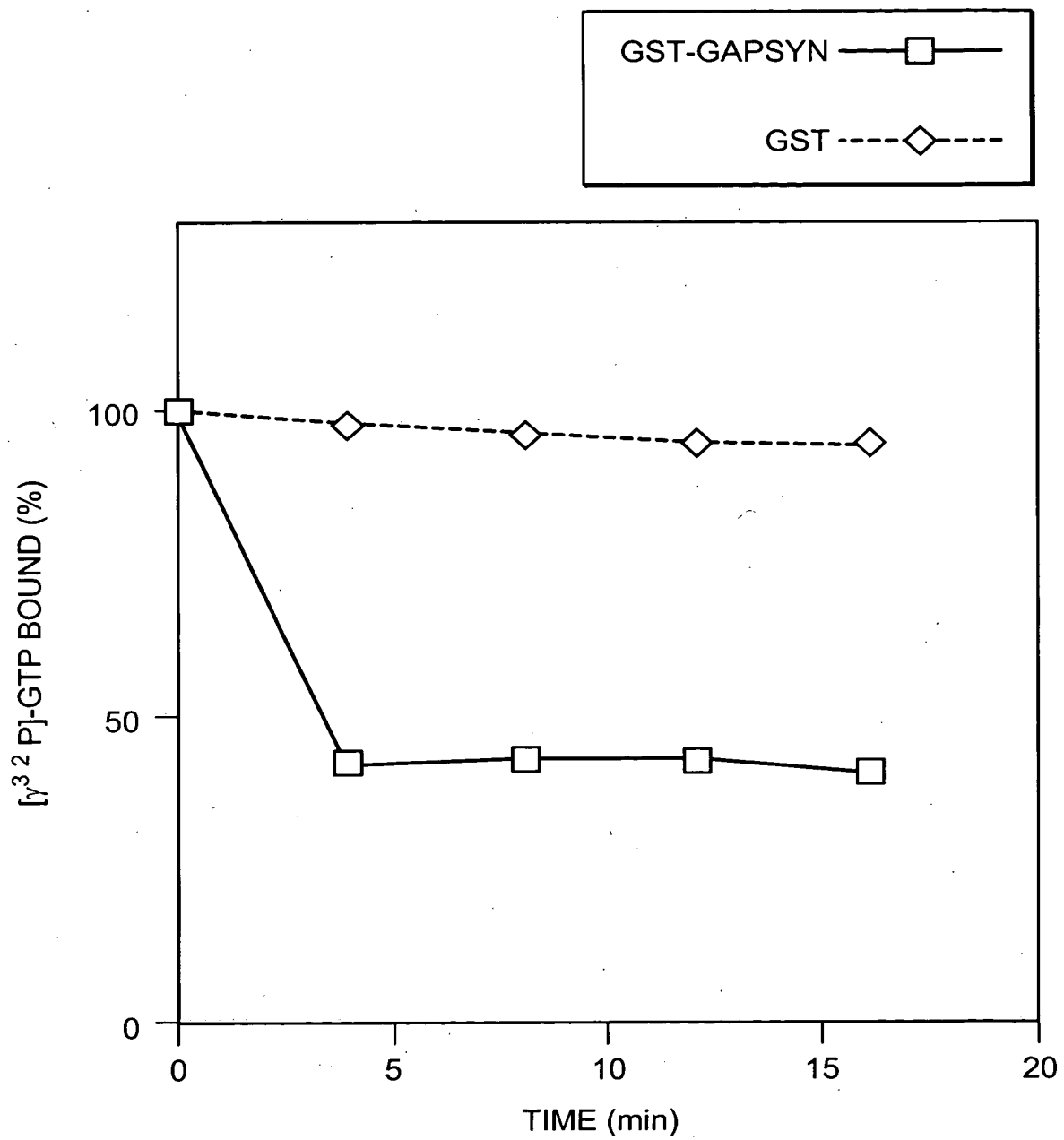


FIG. 11